MUSICAL INSTRUMENTS
IN THE
OLD TESTAMENT

BY
SOL BARUCH FINESINGER

A DISSERTATION
Submitted to the Board of University Studies of the Johns Hopkins University in Conformity with the Requirements for the Degree of Doctor of Philosophy

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Pacific School of
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MUSICAL INSTRUMENTS IN OT

SOL BARUCH FINESINGER.

INTRODUCTION

IN THIS TREATISE I propose to deal only with the musical instruments mentioned in OT. I do not intend to discuss the character of the music per se, nor the few Psalm headings which may refer to musical instruments (*e.g.* those of Ps **4**; **6**; **8**), nor the use of the instruments, except where their use may help to identify them. I intend merely to review the past attempts at identifying the musical instruments, and to state my own opinions and preferences.

The identification of the musical instruments is of prime importance in any attempt to form a true estimate of the music of the Ancient Hebrews. For they, unlike the Greeks, have left us no notation of their music. Therefore we must first attempt to identify their instruments; then, having done so, we can begin to surmise what sort of music these instruments were capable of producing.

The subject is by no means a new one. Nearly every commentator on the Bible has dealt with it in some fashion or other. We may as the starting point begin with the work of Pfeiffer(1)[1] whose treatise gives a summary of the work of his predecessors, and who gives an extensive bibliography. Forkel(2) reviews the field more carefully than does Pfeiffer. The latter was primarily not a musician, but a philologist; and though he reviews the field carefully from this viewpoint and from the viewpoint of the archaeologist, he is often unreliable in his musical judgment. Forkel, on the other hand, had a thorough appreciation of music and never loses the musician's viewpoint in his discussions.

[1] A numeral in parenthesis following the name of an author refers to the order of his work in the bibliography.

His work may be considered an ample review, both of the various theories and of the bibliography. From Forkel down to approximately the middle of the next century no one, with the exception of Jahn(4), made any substantial contributions.

The sources of such an inquiry are, at best, very scant. OT offers hardly any information as to the character of the instruments. They are generally called כלי שיר in OT (*e.g.* Am **6**,5;[2] Neh **12**,36; 1 Ch **15**,16; **16**,42; 2 Ch **7**,6; **23**;13; **34**,12). In 2 Ch **5**,13; **23**,13 they are called כלי השיר; in 1 Ch **23**, 5 they are referred to simply as כלים; in 2 Ch **30**,21 they are alluded to as כלי עז.[3] In 2 Ch **29**, 26 they are referred to as כלי דויד.

In only five instances in OT do we have any indication of what materials musical instruments were made. In Nu **10**,2 we learn that the חצוצרה was made of hammered silver. The *shofar* is several times referred to as *šôpar ha-yyôbēl*, which shows that it was made of the horn of a ram. In 1 K **10**, 12 it is stated that *kinnor* and *nebel* were made of עצי האלגים; while in the similar passage in 2 Ch **9**,11 the wood is called עצי האלגומים (**G** *ξύλα πεύκινα*).[4] The expression כל עצי ברושים in 2 S **6**,5 is often taken to refer to musical instruments; but it is probably to be read בכל עז ובשירים (cf. the parallel passage in 1 Ch **13**,8). The cymbals (מצלתים) are in 1 Ch **15**,19 referred to as being made of brass (נחשת).

The only actual representations of musical instruments which the Hebrews themselves made are found on several coins. There is a representation of a pair of trumpets on the well-known Arch of Titus. Josephus has several references to Hebrew instruments. The Mishna and Talmud also discuss the character and use of several instruments, though in most cases the information they give us is of little account. Of course the

[2] Haupt (WZKM **23**,364) is of the opinion that we should read מְלֵי for כְּלֵי.

[3] Kautzsch (AT[4]) *ad loc* suggests *bᵉqol ʿōz*; cf. 1 Ch **13**,8.

[4] Which of the two is the original form is difficult to tell. Albright (JEA **7**,83) takes the *algum* tree to be the *Acacia Arabica*. As for the word *algum*, he takes *al* to be the Arabic article, while **kum* (cf. Arab. *kamkâm*, gum, Gr. *κόμμι* and Latin *gummi*) has been lost (contrast GB[17], 43[a]).

Ancient Versions, particularly **G**, are of some use in making identifications and comparisons. The Church Fathers, too, have in a few instances recorded traditions of some value about the Hebrew instruments. Yet the material is far from abundant. This scantiness of material accounts for the general sterility of the early writers on the subject.

With the discoveries in Babylonia by Layard and Rawlinson, and in Egypt by Rossellini and Wilkinson, the sources became more ample. Not that any Hebrew instruments were discovered; but numerous representations, and some few specimens of Assyrian and Egyptian instruments were found, which could throw some light on the Hebrew instruments. These discoveries started new inquiries in the field of Hebrew music; and, with the exception of Gressmann (35), no one writing recently has failed to lay stress on the value of these Egyptian and Assyrian instruments for helping to determine the character of the instruments mentioned in OT.

The musical instruments to be dealt with may be divided into the three usual groups: (a) stringed instruments, (b) wind instruments, and (c) instruments of percussion. From our modern viewpoint the most important group would be the stringed instruments. Not so, however, from the viewpoint of the Orientals. Their music is still to-day, as it was in the past, largely rhythmical, rather than melodious and harmonious. No one can deny that they had melody; but rhythm played a more prominent part than melody or harmony. Their love for strong accentuation and rhythm is exemplified in ancient Hebrew Poetry, which was accentual; while the poetry of the Greeks, in contrast, was quantitative.

The instruments will be discussed in the order of the groups mentioned above. In general, the method of treating each instrument will be to give:

(a) material found in OT
(b) evidence of the Ancient Versions
(c) the remarks of Josephus
(d) the Talmudic material
(e) the evidence of the Church Fathers
(f) the conclusions of all investigators after Forkel

(g) my own conclusions
(h) a description of the instrument by comparisons with Egyptian, Assyrian, and occasionally with Greek instruments.

STRINGED INSTRUMENTS

Although it is my purpose to identify several musical instruments in particular, and not to discuss the origin of musical instruments in general, it will not be amiss to discuss briefly the origin and development of some of them. To some extent such a discussion is conjectural; yet we find support for a good many conjectures by considering what is the case with some people who are still in a primitive state of civilization.

The prototype of all stringed instruments is undoubtedly the bow. Primitive man noticed that when he shot an arrow from his bow, the cord, because of its tension, gave forth a sound. Some savage tribes use the ordinary bow as musical instrument even to-day. H. Balfour, in the *Transactions of the British Academy for the Advancement of Science*, 1904, says (p. 693): "The native of Damaraland, who possesses no stringed instrument proper, is in the habit of temporarily converting his ordinary shooting bow into a musical instrument. For this purpose he ties a small thong loopwise round the bow and bow-string so as to divide the latter into two vibrating parts of unequal length. When lightly struck with a small stick the tense string emits a couple of notes."

To the simple bow with one string (cf. fig. 1, below) it was an easy matter to add additional strings. It was realized that a hollow resonator increased the volume of sound; therefore the bow was either allowed to rest on a hollow body or else was attached to one, as for instance, a hollow gourd. Here arises a complete harp, consisting of a string, frame, and resonator. Speaking of some African tribes, Balfour continues: "In order to increase the volume of sound, it is frequently the custom among some of the tribes to rest the bow against some hollow, resonant body, such as an inverted pot or hollow gourd. In

many parts, again, we find that the instrument has been further improved by attaching a gourd to the bow, and thus providing it with a permanent resonating body." From the gourd there developed a more elaborate resonator. In the case of the Egyptian harps it was generally at the bottom; in Assyrian harps, at the top. The gourd-shaped resonator may still be seen in the representations of some of the early Egyptian harps (cf. Wellhausen(32), p. 229, fig. *ee;* and cf. fig. 2 below).

The foregoing describes all the essential features of the ancient harps; further development was merely a matter of adding strings, increasing the size of the resonator, and elaborating the workmanship. The harps of this kind were of diverse sizes and shapes. Some were even carried on the shoulder, as can be seen in Wellhausen (32) *l.c.*, fig. *dd.*, no. 5. This was undoubtedly the prototype of the violin.

As the strings of the primitive harp were drawn tighter and tighter, the tendency of the two ends of the bow-shaped frame to spring apart was very strong. Hence it was found advisable to bind the two ends by means of a bar tied across them (cf. fig. 3 below). This gave rise to an instrument shaped like the lyre and cithara of the Greeks. Thus we see that instruments of both the harp and lyre type originate from a simple bow. In case of the harp, however, the direction of the strings was parallel to a line connecting the ends of the bow-shaped frame; while in the case of the lyre the strings run from the cross-bar down to the frame.

It should be borne in mind that all ancient harps differ in one important respect from the harps in use since the eighth century of the present era. Modern harps have the so-called *fore-pillar*, which serves to prevent the two ends of the frame from moving towards one another when the strings are tensed. None of the ancient harps possess the fore-pillar. We can well imagine that the Assyrian or Egyptian musician suffered considerable annoyance, for when he tightened one string of the harp, the frame would bend, thereby loosening the other strings. In the instruments of the lyre type this difficulty did not exist. This may account for the greater popularity of the lyre and cithara.

כנור

Kinnor, which appears in Arabic as كران, كنارة, and كنار, in Syriac as ܟܢܪܐ and ܟܢܪܐ, and as the loanword *knr* in Egyptian,[5] is the most frequently mentioned stringed instrument in OT, occurring 42 times. The account of its origin, as well as that of the *ugab*, is found in Gn **4**,21. Playing on the *kinnor* is called *niggēn* in 1 S **16**,23, ולקח דוד את הכנור ונגן בידו. This is interpreted by some as indicating that no plectrum was used to strike its strings. In Ps **71**,22; **98**,5; **147**,7; **149**,3, *zimmēr* is used of playing on the instrument. This has generally been taken to mean to 'sing with the kinnor as accompaniment,' or simply to *play* the *kinnor*. Haupt, however, has shown (AJSL **26**,2) that it means to *twitch* the strings (cf. GB[17], 201[a], זמר II). In 1 Ch **15**,28 *hišmîă'* is used in connection with both *kinnor* and *nebel*.

The music of the *kinnor* is referred to simply as *qôl* in Ez **26**,13; from the context we see that its music was of a joyful character. This is also shown in Ps **81**,3; **137**,2 and Job **21**,12; **30**,31.

The number of its strings is not definitely mentioned in OT. Graetz(24), p. 85, interprets כנור על השמינית in 1 Ch **15**,21 (**G** *κινύρα ἀμασενειθ*, **V** *cithara pro octava*) as well as שמינית in Ps **12**,1 as showing that it had, at least in some cases, eight strings.

It was used in the divine service (cf. 1 Ch **15**,16 and *passim*). In the Psalter David is often made to use it in praising JHVH. On the other hand, we find in Is **23**,16 reference to the *kinnor* of a harlot.

G translates it most frequently by *κιθάρα*, next in frequency by *κινύρα*, four times by *ψαλτήριον*, and once (Ps **137**, 2) by *ὄργανον*; in the six instances of its occurrence in the Prophets, by *κινύρα* in all cases but one (Ez **26**,13), where it has *κιθάρα*; also in the historical books by *κινύρα* in all cases but one (2 Ch **9**,11), where it has *κιθάρα*; whereas in the poetical books *κιθάρα* is used in all cases but three, where it has *ψαλτήριον*

[5] Cf. Burchardt, *Die Altkanaanäischen Fremdworte und Eigennamen im Aegyptischen*, Leipzig (1900), Part II, no. 990.

twice (Ps **49**,5; **149**,3) and *ὄργανον* once (Ps **137**,2). **S** has כִּנּרָא in all but five cases (Ps **98**,5[b]; 1 Ch **15**,28; **16**,5; **25**,1; 2 Ch **5**,12), where it is omitted. **V** has *cithara* in all cases but five: *lyra* twice (1 Ch **15**,16; **16**,5), *psalterium* twice (Ps **49**,5; **149**,3), and *organum* once (Ps **137**,2). **T**[o] has, in the two cases where *kinnor* occurs in the Pentateuch, כְּנוֹרָא (Gn **4**,21), and חֲנָנָא (Gn **31**,27).[6] In Gn **4**,21 **T**[o] expands, inserting דְּמָמָן עַל פּוּם נְבַלָּא דִּידְעִי זְמַר כְּנוֹרָא. **T** has כִּנּרָא in all cases but five, where it has כְּנוֹרָא (1 S **16**,23; **10**,5; **16**,16; Ps **98**,5[b]; Neh **12**,27).

As to the rendering of **G** it may be said that *κιθάρα* is Greek, while *κινύρα* is a Semitic loanword. The Greeks borrowed it from the Phenicians, hence u for ô (cf. Phenician *sufet* = Heb. שופט; see Schröder, p. 209).

The following table shows at a glance the rendering of the Ancient Versions, the numbers in parenthesis indicating the frequency of occurrence.

כנור (42)

G		S		V		T	
κιθάρα	(20)	כִּנּרָא	(37)	*cithara*	(37)	כִּנּרָא	(21)
κινύρα	(17)	omitted	(5)	*lyra*	(2)	כְּנוֹרָא	(6)
ψαλτήριον	(4)			*psalterium*	(2)	חֲנָנָא	(1)
ὄργανον	(1)			*organum*	(1)		

Josephus (Ant **1**,3,2) agrees with Gn **4**,21 as to the origin of the musical instruments: "Jubal, who had the same mother as he (Jabal), practised music and invented the psaltery and cithara."[7] In Ant **7**,12,3 he says the following: "The nature of

[6] *Ḥingâ* means also dance, fair, etc.

[7] *Ἰούβαλος δέ, ὁμομήτριος δ' ἦν αἰτῷ μουσικὴν ἤσκησε καὶ ψαλτήρια καὶ κιθάρας ἐπενόησαν.*

the instruments is as follows: "The *kinyra* is an instrument provided with ten strings, struck with the plectrum. The *nabla* has twelve sounds and is plucked with the fingers. The cymbals were broad and large, made of brass."[8]

According to Rabbinic[9] sources the cithara[10] was played with the fingers; cf. Baraitha b Joma 38b: ומניח אצבעו בין הנימין, and he places his finger between the strings. It is, however, possible that the use of הקיש (lit. to *strike*) points to the use of the plectrum. Krauss(45), note 89 quotes Midrash Tehillim on Ps **137**,4 where it is stated in reference to Nebuchadnezzar: ותקישו לפני בכנורות שלכם, and you shall, in my presence, strike your citharas. Krauss(45), p. 86 states that the people at large may have played the *kinnor* with the plectrum; while the Levites, conservative in their adherence to the ancient custom, and perhaps also out of consideration for the Sabbath and holidays, used no plectrum.

The strings were made of sheeps' gut. This can be seen from M Kinnim **3**,6, where the following is stated of Abraham's ram: "When it (the ram) is alive, it has one sound (its natural voice); but when it is dead, it has seven. How do we get seven? Its two horns become two trumpets; its two legs, two flutes; its skin, a tambourine; its large intestine is for the harp; its small intestine for citharas."[11]

The number of strings may be seen from Arak 13b,[12] in commenting on M. Arak. **2**,6, where there is a confusion between the *nebel* and *kinnor*, and where it can be seen that *nebel* was supposed to have more strings: "R. Judah says: The cithara of the sanctuary had seven strings, according to the passage (Ps **17**,11),

[8] ἡ δὲ τῶν ὀργάνων ἐστιν ἰδέα τοιαύτη τις τὸν τρόπον. ἡ μὲν κινύρα δέκα χορδαῖς ἐξημμένη τύπτεται πλήκτρῳ. ἡ δέ νάβλα δώδεκα φθόγγους ἔχουσα τοῖς δακτύλοις κρούεται, κύμβαλά τε ἦν πλατέα καὶ μέγαλα χάλκεα.

[9] For a good deal of the Rabbinic material I am indebted to Krauss(45), whose work has been frequently consulted. The notes in Krauss refer to the notes on Chapter X.

[10] *Kinnor* will be translated cithara, and *nebel*, harp.

[11] כשהוא חי קולו אחד וכשהוא מת קולו שבעה כיצד קולו שבעה שתי קרניו שתי חצוצרות שתי שוקיו שני חלילין עורו לתף מעיו לנבל בני מעיו לכנורות.

Joyful abundance is before thy presence. Do not read שִׂבַע (abundance), read שָׁבַע (seven). That of Messianic times will have eight, according to the passage (Ps **12**,1), *For the liturgy on Sheminith*, meaning on the eighth string. That of the world to come will have ten strings, according to the passage (Ps **92**,4), *upon the ten-stringed harp, with music on the cithara*, and the passage (Ps **33**,2), *Praise JHVH with the cithara, play for Him with the ten-stringed harp.* You might say, following R. Judah, that because in the world to come, on account of its greater number of strings, its sound will be as loud as that of the *nebel*, it will be called *nebel*."[13]

There are full instructions for what should be done if one of the strings broke; cf. M. Erub. **10**,13: "One may knot a string in the sanctuary, but not in the province (*i.e.* outside, in private use). But if it happened at the beginning (if the string broke before one started to play) it is forbidden in either case."[14]

The comment on this in Erub. 103a is more explicit: "A Levite on whose cithara a string is broken may knot it. R. Simeon says: He should splice it. R. Simeon b. Eliezer says: This does not allow the tone to come out clearly (*i.e.* when a string is fixed in the middle); but one should loosen the string at the bottom and wind it around the top, or loosen it at the top and wind it around the bottom."[15]

The use of the cithara in the sanctuary, and the number to be used is also referred to in M. Arak. **2**,5: "Not less than two trumpets should be used, and the number may be increased

[12] References to the Talmud are to Talmud Babli, unless J is prefixed, in which case Talmud Jerushalmi is meant.

[13] רבי יהודה אומר כנור של מקדש של שבעת ניסין היה שנאמר שובע שמחות את פניך אל תיקרי שובע אלא שבע ושל ימות המשיח שמונה שנאמר למנצח על השמינית על נימא שמינית של עולם הבא עשר שנאמר עלי עשור ועלי נבל עלי הגיון בכנור ואומר הודו ליהוה בכנור בנבל עשור יזמרו לו שירו לו שיר חדש אפילו תימא רבי יהודה לעולם הבא איידי דנפשי נימין דידיה נפיש קליה כי נבל קרי ליה נבל.

[14] קושרין נימא במקדש אבל לא במדינה ואם בתחלה כאן וכאן אסור.

[15] בן לוי שנפסקה לו נימא בכנור קושרה ר' שמעון אומר עונבה רבי שמעון בן אלעזר אומר אף היא אינה משמעת את הקול אלא משלשל מלמטה וכורך מלמעלה או משלשל מלמעלה וכורך מלמטה. Cf. also J. Erub. 26c: נימא שבכנור שנפסקה וקשרה היא אינה משמעת את הקול אלא משלשל מלמעלן וכורך מלמטה.

ad libitum; not less than nine citharas, whose number may be increased *ad libitum*; but only one cymbal[16](*i.e.* pair of cymbals). In Sheb 15b it is stated: "A song of thanks is accompanied by citharas, harps and cymbals, in every corner and upon every large stone in Jerusalem."[17] In contrast, M. Arak. **2**,6, states: "They (the youths assisting the Levites) did not recite to the accompaniment of cithara and harp, but unaccompanied, so as to put spice in the melody."[18]

The Talmud has several anecdotes about David and his cithara. Ber. 3b says: "A cithara used to hang above David's bed; as soon as midnight approached, a north wind used to come and blow upon it, whereupon it played of itself."[19] The same story is found in Sanh 16a in almost the same words. Likewise in J Ber 2b the same is told, excepting that the cithara is in front of his window. Here we also find the following: "What did David use to do? R. Pinchas in the name R. Eliezer b. Menahem (said): He used to take the cithara and harp and put them at the head of the bed. At midnight he used to get up and play them."[20]

The case in which the cithara was kept is in M. Kel. **16**,7 called תיק כנורות (*θήκη*).

Finally the Talmud also tells of the connection between the word *kinnor* and the name Kinnereth (cf. GB[17], 354[a]). In Meg 6a we find: "Kinnereth is Genesar. Why is its name called Kinnereth? Because its fruits are sweet as the sound of the *kinnor*."[21] However, in J. Meg. 70a we find a different account of the name: "Kinnereth is Genesar. R. Levi objected: It is written (Jos **12**,3) And the plain extends to the sea of Kineroth (pl.). Does it follow from this that there were two places called

16 אין פוחתין משתי חצוצרות ומוסיפין עד עולם אין פוחתין מתשעה כנורות ומוסיפין עד לעולם והצלצל לבד.

17 שיר של תודה בכנורות ובנבלים ובצלצלים על כל פינה ופינה ועל כל אבן גדולה שבירושלים.

18 ולא היו אומרים בנבל וכנור אלא בפה כדי ליתן חבל בנעימה.

19 כנור היה תלוי למעלה ממטחו של דוד וכיון שהגיע חצות לילה בא רוח צפונית ונושבת בה ומנגן מאליו.

20 ומה היה דוד עושה ר' פינחס בשם ר' אלעזר בר' מנחם היה נוטל נבל וכינור ונותנו מראשותיו ועומד בחצי הלילה ומנגן בהם.

21 כנרת זו גינוסר ולמה נקרא שמו כינרת דמתיקו פירא כקלא דכינור

cf. Haupt OC **23**,119; JAOS **43**,121; PAPS **38**,243.

Genesar? Or perhaps there were only two autonomous districts, as Beth-Yeraḥ and Sennabris, which produce lotus plants (or service trees)."[22]

The Church Fathers discuss the instruments, some of them at great length. Augustine, on Ps **42**,4 says: "Duo haec organa musicorum habent inter se distinctam discretamque rationem, dignam consideratione et commendatione memoriae. Utrumque hoc manibus portatur et tangitur, et significat opera quaedam nostra corporalia. Utramque bonum, si quis norit psallere, si quis norit citharizare. Sed quia psalterium istud organum dicitur, quod de superiore parte habet testudinem: illud scilicet tympanum et concavum lignum cui chorde innitentes resonant: cithara vero idipsum lignum cavum et sonorum ex inferiore parte habet."

On Ps **70**,23 he has: "Sed quid est psalterium? Organum lignum cum chordis. Quid significat? Interest quiquid inter ipsum et citharam: interesse dicunt qui norunt, eo quod concavum illud lignum cui chordae supertenduntur ut resonent, in superiore parte habet psalterium, cithara in inferiore." Commenting on Ps **150**,3 he says: "Jam quippe in alio psalmo exposuimus psalterium desuper habere sonorum illud lignum, cui nervorum series, ut meliorem sonum reddat, incumbit: quod lignum cithara inferius habet."

Jerome, on Ps **32**,2 says: "Cithara lignum illud concavum tanquam tympanum pendente testudine, cui ligno chordae innituntur, ut tactae resonent: non plectrum dico quo tanguntur, sed lignum illud dixi concavum cui superjacent, cui quodammodo incumbunt, ut ex illo cum tanguntur tremefactae, et ex illa concavitate sonum concipientes, magis canorae reddantur: hoc ergo lignum cithara in inferiore parte habet, psalterium in superiore. Haec est distinctio. Jubemur autem modo confiteri in cithara, et psallere in psalterio decem chordarum. Non dixit in cithara decem chordarum, neque in hoc psalmo, neque, si non fallor, alicubi. Legant, et considerent melius et otiosius filii nostri Lectores: tamen quantum mihi videor meminisse,

[22] כינרת גיניזרי התיב רבי לוי דהכתיב והערבה עד ים כנרות שני גניסרות היו או לא היו אלא שני אבטוניות כנון בית ירח וצינברייי שהן מגדלות כנרים.

multis locis invenimus psalterium decem chordarum, cithara decem chordarum nusquam mihi lectum occurrit. Mementote citharam ex inferiore parte habere quo sonat, psalterium ex superiore." In Ps **33**,2 he again refers to the difference in position of the resonator: "Cithara deorsum habet cavamen, et sex chordis habet. . . . Psalterium desursum habet cavamen."

Isidorus, Orig. **3**,21,7 says: "Psalterium, quod vulgo canticum dicitur a psallendo nominatum, quod ad eius vocem chorus consonando respondeat. Est autem similitudine citharae barbaricae in modum △ literae, sed psalterii et citharae haec differentia est, quod psalterium lignum illud concavum, unde sonus redditur, superius habet et deorsum feriuntur chordae et desuper sonant. Cithara vero concavitatem ligni inferius habet." And in Orig. **3**,21,2 he further says: "Formae citharae initio similia fuisse traditur pectori humano, quod uti vox a pectore ex ipsa cantus ederetur, appellatamque eadem de causa. Nam pectus Dorica lingua kithara vocatur."

St. Chrysostom, on Ps 149 says that the psalterium is *moved* from above, and not from the bottom like the cithara: *καὶ γὰρ ἄνωθεν τὸ ὄργανον τοῦτο κινεῖται οὐ κάτωθεν ὅσπερ ἡ κιθάρα.* Whether this refers to the method of carrying the instruments, or to the moving (striking) of the strings is not evident.

Ibn Ezra, on Dan **3**,5 says: כנור דמות מנורה, the *kinnor* has the form of a candelabrum. He surely must have had in mind the lyre or cithara, either of which are so shaped.

Pfeiffer(1) takes the *kinnor* to resemble the lute or guitar. He is followed by Saalchütz(5), Schneider(6), Keil(11), Delitzsch (Isaiah,[4] Eng. Trans. p. 158), and Stainer(48). SH, Ambros(13), Hutchenson(16), Worman(21), Haupt (WZKM **23**,363) take it to have been harp-shaped.[23] It is regarded as a cithara or lyre by Engel(14), Keil(11), Kitto(19), Weiss(31), Wellhausen(32), Benzinger(37), and Millar(36). Ewald(12) thinks that it had strings of cat-gut.

[23] Prof. Haupt has suggested to me several etymologies of kinnor. One is that it may be connected with جرن *basin* the ǧ in the latter being due to partial assimilation (cf. AJSL **24**,151). The other is that it is from the root رنن, *to moan*, etc. and is a transposition of רנן (cf. AJSL **32**,64).

For the form of the word, cf. Nöldeke, *Mandäische Grammatik* §104, and contrast Barth §44c. As to its etymology, Pfeiffer(1) connects it with Persian-Arabic *kunnâr*, lute; Gressmann(35) connects it with the same word meaning lotus plant;[24] Jahn(4) identifies it with Syr. ܟܢܪܐ in the meaning of *cord*;[25] Gesenius (*Thes.* 698[a]) and Delitzsch *l.c.* take it to come from an onomatopoetic stem. For the connection between *kinnor* and *κινύρα*, cf. Lewy p. 164, Muss-Arnolt p. 127, and Chajes (OLZ 5,352).[26]

One can see that the opinions are divided, roughly, into three groups: those that consider the *kinnor* a harp; those that consider it a lute or guitar; and those that consider it to be like the Greek *kithara*, which is represented in an early form on the tomb of Beni Hassan. I incline to the last opinion, for it seems to be better supported.

It is unlikely that G would translate by *κιθάρα*, the character of which was so definitely known, any instrument which was radically different. Now, if we can find on Semitic monuments instruments resembling the *κιθάρα* we may be reasonably sure that the *kinnor* resembled these instruments.

Furthermore, even though OT does not throw any light on whether the *kinnor* was played with the plectrum or not, Josephus states that it was played with the plectrum. Harps are never represented as being played with the plectrum; hence, on the basis of Josephus, *kinnor* could not mean harp. It will be shown below that *nebel* is a harp; hence *kinnor* would most likely be a different type of instrument. The Church Fathers all state

[24] Cf. Vullers, *Lexikon Persico-Latinum*, Bonn (1853-1864), Part 2, 891[a]: كنار, *fructus loti arbori.*

[25] There seems to be no such meaning for the word; cf. Smith, *Thes, Syr.* 1769 *s.v.*

[26] Bochart (*Phal. et Can.*[4], 808), in discussing Κινύρας, quotes Suidas: Κινύρας ὄνομα κύριον Θείαντος παῖς βασιλέως Κύπρου ζαπλοῦτυς ὃν φασιν ἀμιλλώμενον τῷ Ἀπόλλωνι ὡς οἷα μουσικῆς τεχνίτην ἀπολωλέναι διὸ καὶ Κινύρας ἐκλήθη παρώνυμος τῇ κινύρᾳ. Bernhardy, however, deletes Θείαντος . . . . κινύρᾳ in his edition of Suidas (1853). As to *κινύρα*, Suidas says: *κινύρα ὄργανον μουσικὸν ἢ κιθάρα ἀπὸ τὸ κινεῖν τὰ νεῦρα.* Bochart, col. 728, brands this as ridiculous.

that the cithara had its resonator on the bottom; this is true of the instruments on the monuments that resemble the κιθάρα. Ibn Ezra states that the *kinnor* resembled a candelabrum; this surely reminds one of the cithara. On the basis of all this, we are safe in thinking that the *kinnor* had the general form of the lyre and cithara.

Of course this does not mean that the *kinnor* had exactly the same form at all times. It was surely subject to some development as time went on. Essentially, however, it had the shape represented in fig. 3.

The earliest representation of this type of instrument is well shown in Wellhausen(32), p. 224 *r*. This is an instrument of large dimensions and is provided with a large sound-body. It has eleven strings which are attached to a cross-bar at the top, and which at the bottom are drawn slightly over the sound-body. According to Wellhausen the instrument belongs to the prehistoric period; and this opinion is probably correct.

In a later and more refined development, it may be seen in the scene represented on the tomb of Beni Hassan, to which reference has been made several times. The scene is best reproduced in Riehm(25) facing p. 330. The instrument carried by one of the men in the party is essentially oblong in shape, with a large square opening at the front. The front is slightly narrower than the rest of the instrument. It is carried under the left arm; the right hand of the player is holding a plectrum, while the left hand seems to be twitching the strings. Perhaps the left hand is damping the sound of the strings. The number of strings drawn across the whole length of the instrument is eight or nine. There is some difference, in the various representations, of how the strings are drawn across the sounding board. Riehm gives it without any strings crossing the sounding board diagonally; but Wilkinson(7), who is generally followed, shows the strings diagonally as well as longitudinally crossing it. This, however, does not affect the character of the instrument. The date of the representation is not certain; it is, however, very early, and probably belongs to about the 20th century B. C. E.

This very instrument appears later in Egypt as the lyre. It is, of course, much more refined and developed in the later

representations. Wilkinson(7), p. 291, no. 217, and passim gives several illustrations of the Egyptian lyre, played both with and without the plectrum.

In a still later form than that of Beni Hassan the same instrument appears in a representation of some Semitic captives being guarded by an Assyrian warrior. This is well reproduced by Wellhausen(32) p. 225, fig. *t*. He proves that these are Semitic captives by comparing these figures with those represented on the Obelisk of Shalmaneser II. In this representation the side arms of the instrument are not parallel, as in the Egyptian, but are slightly divergent. The number of strings cannot be exactly determined. It was probably three or four. Nor can it be seen whether or not a plectrum was used. From the way the instruments are carried it cannot be seen whether they had a sound-board or not, but they probably did.

There are several more Assyrian representations of what seems to be the same instrument. The so-called Babylonian harp shown by Wellhausen(32) on p. 227, fig. *w*, seems to me to be the same sort of instrument, excepting that the cross-bar appears at the bottom. The Assyrian cittern, shown by him on p. 228, fig. *bb*, looks like an elaboration of the same instrument.

In a very late development the instrument is shown on a coin given, among others, by Madden, p. 206, no. 4. He assigns it to the time of the second revolt of the Jews (132-135 C.E.) under Barcocheba, at the time of Hadrian (117-138 C.E.). In this representation the Greek influence is seen in the vase-shaped bottom, which serves as the resonator. Madden gives several additional illustrations of coins showing the instrument.

These foregoing representations show conclusively that the instruments of the cithara and lyre type were quite common among Semitic peoples. It may appear that I am confusing lyre and cithara, but that is not the case. Essentially both κιθάρα and λύρα are of the shape represented in fig. 3. Their difference is one of proportions. The former is a much more massive instrument; its large arms are often hollow so as to reinforce the tone. Its resonator is of good size, and, aside from the cross-bar at the top, the frame seems to be made of one piece of material. It is often represented as being carried by

the performer by means of a strap suspended from the shoulder (BD, fig. 104).

The λύρα, on the other hand, is a much lighter instrument. Its resonator is often made of a tortoise shell. Exclusive of its cross-bar, its frame generally consisted of three pieces—two arms and a resonator. This is apparent from an illustration in DS, fig. 4700, where one can see the remains of a lyre from which the resonator at the bottom has fallen away; it consists merely of two curved arms.

Nor is the difference between them that the κιθάρα has the strings drawn partly across the resonator, while the λύρα has not. In BD, fig. 1603, are shown three lyres, whose strings are drawn over the resonator. Both the cithara and lyre are played with and without a plectrum. DS, fig. 4727 shows a picture of both a cithara and lyre together, where it may be seen that there is no essential difference between them, both having the shape indicated in fig. 3. Besides, there is a Greek tradition, which has it that no distinction between lyre and cithara was made before the time of Pindar.

Briefly, in view of the evidence of **G**, in view of the arguments mentioned above, and also in view of the fact that the Semitic monuments and coins portray instruments of the type of the Greek κιθάρα and λύρα, it is reasonable to conclude that the *kinnor* resembled these instruments.[27]

נבל

The *nebel* as a musical instrument occurs 27 times in OT. In Ps **71**,22 it is referred to as כְּלִי נבל (**G** σκεύος ψαλμοῦ, **V** *vasum psalmi*), the plural of which expression is כְּלֵי נבלים in 1 Ch **16**,5 and כְּלֵי הנבלים in Ps **92**,4. In 1 Ch **15**,20 we find נבלים על עלמות (**G** νάβλαι ἐπὶ ἀλημωθ).[28] In Am **5**,25 its music

[27] The same instrument is mentioned four times in Dan **3**,5.7.10.15, where it appears as קִיתָרוס (**Q** קִתָּרוס) and the variant קִיתָרוס (cf. GB[17], 923[b]). **G** translates κιθάρα, **V** *cithara*, **S** קִיתָרָא. Gesenius (*Thes.* 1215[a]) properly takes it as a loan word <κιθάρις and gives a good many instances where the termination -ις, -ης >וס in Hebrew and Syriac (cf. Krauss p. 193).

[28] Graetz(24) pp. 71,85 takes עַלְמוֹת of Ps **48**,1 and 1 Ch **15**,28 to refer to

is called זמרת נבלים; while in Is **14**,11 we find הֲמִית נבליך (**G** wrongly ἡ πολλή εὐφροσύνη σου). The expression פי הנבל (Am **6**,5) is taken by some to indicate that it had an opening in its resonator.

The number of its strings is referred to in several passages. In Ps **92**,4 we find עלי עשור ועלי נבל (**G** ἐν δεκαχόρδῳ ψαλτηρίῳ);[29] in Ps **33**,2 and **144**,9, נבל עשור. This does not necessarily mean that the *nebel* always had ten strings, but that it did in some cases.

G translates it by νάβλα 14 times, but only in the historical books; by ψαλτήριον eight times; by ὄργανον twice (Am **5**,23; **6**,5); and by κιθάρα once (Ps **81**,3). For the other two cases of its occurrence, Is **14**,11 and Ps **71**,22, see above. **S** translates by קִיתָרָא. 13 times; by כִּנָּרָא four times, Is **14**,11; Am **5**,23; Ps **71**,22; **92**,4; by נְבָלָא twice, 1 Ch **13**,8; **15**,16. In 1 Ch **16**,5 it gives a different series of names than the Hebrew text and omits the word for *nebel*; likewise in 1 Ch **25**,1 it paraphrases and expands, omitting the word. In 1 Ch **15**,20 בנבלים על עלמות is rendered מְשַׁבְּחִין בְּתִשְׁבָּחְתָּא. In 2 Ch **20**,28 it is mistranslated תִּשְׁבָּחְתָּא. **S** omits six times, Neh **12**,17; 1 Ch **15**,28; **25**,8; 2 Ch **5**,12; **9**,11; **29**,25. **V** translates *nebel* by *psalterium* 17 times; by *nablium* three times, 1 Ch **15**,16; **16**,5; **20**,28; by *lyra* four times, 2 S **6**,5; 1 K **10**,12; Is **5**,12; Am **5**,23; by *cithara* once, Ps **81**,3. In Ps **71**,22 כלי נבל is translated *vasum psalmi*; and in Is **14**,11 המית נבליך is mistranslated *cadaver tua*. **T** has נְבָלָא ten times (pl. נְבָלַיָּא, נְבָל twice, 2 S **6**,5 and Is **5**,12; כִּנָּרָא twice, Am **5**,23 and Ps **92**,4. In Is **14**,11 **T** incorrectly translates המית נבליך by תושבחת זַמָּרָך.

instruments coming from Elam. On the basis of **G** he considers עַל מוּת לַבֵּן (Ps **9**,1) = על עלמות נבל.

[29] It is possible that in this case we are dealing with two instruments, the *dechachord* and *nablium* (cf. Hieron. Psalter juxta Hebraeos: *in decharchordo et in psalterio*). To me the rendering of **G** seems preferable.

נבל (27)

G		S		V		T	
νάβλα	(14)	קיתרא	(13)	*psalterium*	(17)	נבלא	(10)
ψαλτήριον	(8)	כנרא	(4)	*lyra*	(4)	נבל	(2)
ὄργανον	(2)	נבלא	(2)	*nablium*	(3)	כנרא	(2)
κιθάρα	(1)	omits	(6)	*cithara*	(1)		
mistranslates	(1)	mistr.	(2)	mistr.	(1)	mistr.	(1)
σκεῦος ψαλμοῦ (1) כלי נבל=				*vasum psalmi* (1) כלי נבל=			

Josephus' description of the *nabla* has already been referred to.

The Greek writers recognized that the *νάβλα* was a foreign instrument. That it is not a Greek word is also apparent from the uncertainty of the form in Greek. We find it variously written, as *νάβλα*, *νάβλιον*, *νάβλας* and later as *ναῦλας*, *ναῦλα*. Strabo 471 calls *νάβλας* (MSS *ναμβλας*) a barbarian name. Most of the information about it on the Greek side is found in Athenaeus (cf. Bochart, *Phal. et Can.*[4] 720 and Lewy p. 161). In 4,182[e] Athenaeus calls women who play the instrument *ναβλίσται*. In 4,175[c] where the passage is corrupt, he mentions *τοῦ Σιδωνίου νάβλας*, from which it would seem that it was either invented by or borrowed from the Phenicians. He also gives a description of the instrument, mentioning the lotus in connection with it. It is very difficult, however, to get anything definite from his description of it; one cannot tell whether he considers it a stringed instrument, or a wind instrument.

We have seen that according to Rabbinical tradition the *nebel* had more strings than the *kinnor*. Another statement of this fact seems to be found in J. Sukka 55[c]; here we are informed as to what its resonator was made of, and find an at-

tempt to etymologize the word: "The difference between *nebel* and *kinnor* is that one (*nebel*) has more strings than the other. R. Hijja b. Aba (said), Why was its name called *nebel*? Because it put to shame (excelled) many a musical instrument. R. Huna in the name of R. Joseph (said), Because of a skin that is not dressed and because of its many strings it put to shame many a musical instrument."[30] Here the word is taken to be connected with *nebel*, skin bottle.

We find a distinction between the harp of a female singer and the harp used by the Levites in the sanctuary. In M. Kel. **15**,6 we find: "The harps of the female singer are unclean (when they touch an unclean object); the harps of the Levites are clean."[31] Likewise in M. Kel. **24**,14 we find reference to the harps of the Levites. Just as in Biblical times the harp was used in conjunction with the cithara and the cymbals.

The number of harps used in the sanctuary is mentioned in M Arak **2**,3: "No fewer than two harps and no more than six should be used."[32]

The material of which the strings of the harp were made has already been referred to. The case in which the harp was kept is in M. Kel. **16**,7 called נבלים תיק.

The opinions of the Church Fathers on *psalterium*, by which *nebel* is generally translated in **V**, have been stated above. Briefly, they say that it is distinguished from the *cithara* by having its resonator at the top.

The *nebel* is considered the lyre by Pfeiffer(1), Forkel(2), Jahn(4), Worman(21), Cornill(42); the harp by Schneider(6), Saalschütz(10), Riehm(25), Delitzsch (Psalms[5], Eng. Trans. p. 24), Weiss(31), Prince(34). It is regarded as the lute (Eg.

[30] The translation is uncertain. The text has:
היא נבל היא כינור נימין יתרות בין זה לזה אמר רבי חייא בר (א)בא למה נקרא שמו נבל שהוא מלבין כמה מיני זמר ר' הונא בשם רב יוסף על ידי עור שאינו עבוד ועל ידי נימין יתירות היה מלבין כמה מיני זמר.
The first part of the passage may mean that *nebel* and *kinnor* are the same, except for the number of strings, of which *nebel* has more. Cf. Midrash Tehillim **81**,3 and Krauss(45), note 72.

[31] נבלי השרה טמאין ונבלי בני לוי טהורין.

[32] אין פוחתין משני נבלים ולא מוסיפין על ששה.

nfr) by Engel(14), Brugsch **3**, p. 758,[33] Haupt (WZKM **23**,363). Ewald(12) takes it to have had strings of hemp. Ambros(13) identifies it with the Assyrian dulcimer. Kitto(18) regards it as either the harp or lyre. Benzinger(37) includes both harp and lute under *nebel*. Stainer(47) takes it to have been a bow-shaped instrument. Idelsohn(48) regards it essentially as a wind instrument.[34]

The instrument is connected with *nebel*, skin bottle, by Gesenius (*Thes.* 844a), Worman(21), Graetz(24), Prince(34), Gressmann(35), Benzinger(37). For the connection between *nebel* and *νάβλα* cf. Lewy s. *νάβλα*, and Bochart (*Phal. et Can.*[4] col. 728).

My opinion is that the *nebel* represents the harp, or an instrument shaped like the harp. Having identified the *kinnor* as the cithara and lyre, I think that it would be strange if the harp, which was such a common instrument in the East, were unknown to the Hebrews.

That *nebel* is the harp is confirmed by Egyptian sources. Egyptian *bin.t*, harp, is the equivalent of נבל. As is well known Semitic *l* often becomes *i* in Egyptian (*e.g. ib* < *ỉb* < *lb* = לב, heart). In *bin.t*, the *t* is the feminine ending; hence *bin* <**bln* <**nbl* = נבל. That *bin.t* denotes harp is seen from the fact that the word is often written with the harp as determinative. This comparison should, I think, settle definitely that נבל is a harp, nothing else.

Regarding the opinion that the *nebel* had its resonator on the top, while the *kinnor* had it at the bottom—an opinion found in the Church Fathers and quoted by many—I would

[33] The meaning most recently assigned by Egyptologists to *nfr* is not *lute*, but *heart*; cf. Erman, *Aegyptische Grammatik*, 3rd edition (Berlin, 1911), p. 316, where it is rendered *Herz*; also H. Sotta and E. Drioton, *Introduction a L'Etude des Hiéroglyphes* (Paris, 1922), p. 22, *coeur suspendu par une artère.*

[34] His opinion is that the *nebel* *'alamoth* was, like the *nebel*, a skin bag, but that it had two parallel pipes. For *'alamoth* he compares Ass. *elamu*, opposite; it thus refers to the two pipes of the double flute. As to *'ălāmôt* > **ellamu*, we are not at all certain (cf. Muss-Arnolt, *Handwörterbuch*, 47b). Furthermore, the *nebel* could not have been a wind instrument; not once do the Ancient Versions so regard it.

say that such a distinction, as applied to the harp, seems to be secondary, having nothing to do with the essential character of the instrument. The Assyrian harp, for example, has its resonator at the top; the Egyptian harps, generally at the bottom; yet no one can deny that they are both the same type of instrument. They are both essentially bow-shaped, as may well be seen in the earliest Egyptian harp, with the strings running horizontally, as is roughly indicated in fig. 2. It is, of course, not always possible to recognize the shape of the bow in the later developments of the harp; yet the bow was the prototype of them all.

Furthermore Josephus states that the *nabla* was played without a plectrum, with the fingers only; this lends itself well to the harp, for never do we find a harp played with the plectrum. Some may object to quoting the statement of Josephus on the ground that it applies only to what was the case in his own time. In reply it is to be said that the general development of stringed instruments is that they were played at first without the plectrum, and only later was the plectrum added. Now if Josephus, writing late, says the *nabla* was played without a plectrum, we cannot conclude that this was a later custom, for that would be contrary to the development just stated. We are, therefore, not unsafe in assuming that the *nebel* was always played without the plectrum.

It also seems that the common rendering of *nebel* found in **G** points to its being a harp. **G** in most cases translates merely by *νάβλα*. This leads me to think that **G** considered the *nebel* an instrument which was either of extra-Greek origin, or was little known among the Greeks. Now the harp seems not to have been common among them. In fact, there is to my knowledge no Greek word that could be in general applied to the harp. Among all the representations of Greek instruments I can find only one of a harp being played. BD, fig. 1608 shows a harp being played together with two lyres. It has its resonator on top and has 16 strings. It would seem, therefore, that the harp was uncommon among the Greeks, and that by translating by the loanword *νάβλα* **G** had the harp in mind.

I would not, however, limit the *nebel* to a harp of any de-

finite size or number of strings. It should be considered a general word for instruments of the harp type.

It now remains to describe some of the Assyrian and Egyptian harps, for we have no representations of the Hebrew harp, as we have of the cithara. At the outset it should be stated that these harps differ in form from our harps in that one side, the one turned away from the player, does not have a post, the so-called *fore-pillar*, as part of its frame, but has the strings exposed. It seems to me possible that in the expression פי הנבל Am **6**,5 we have a reference to the open side of the harp.[35] Our modern harps, on the other hand, have the strings enclosed on all sides, and possess the fore-pillar.

The representations of the Assyrian harps are by no means as numerous and varied as those of the Egyptian harps. The best representation of the Assyrian harp is shown by Wellhausen(32), p. 225, fig. *v*, taken from the representation of the procession in honor of Assurbanipal, fig. *u*. Seven of these harps are represented in the procession. The instrument is, roughly, triangular in shape with 20 strings and with a slightly curved resonator, which covers the upper ends of the strings. The resonator at the top has several holes in its side, noted only by Wellhausen. He suggests that these holes served to increase the volume of sound produced. Below these holes can be seen round projections to which the strings seem to be attached. Wellhausen suggests that these may have been pegs for tuning the strings, but we are not sure that ancient instruments were tuned with pegs. Below, the strings are attached to a horizontal cross-bar, while the ends of the strings hang down quite a bit below the bar.

I do not intend to give a complete description of all the Egyptian harps, which are far more numerous than those of the Assyrians, and of which we have some specimens preserved. I shall merely attempt to give an account of the Egyptian harp in its development from a simple bow into its most elaborate forms. Let it be understood, however, that the development which will be traced may not be strictly chronological.

[35] Contrast Haupt (WZKM **23**,363) and Nowack(30).

The earliest Egyptian harp, as regards form, is well illustrated by Wellhausen(32), p. 229, fig. *ee*. Here the bow-like shape of the instrument is clearly seen. There are two strings fastened to the top (not by means of pegs as Wellhausen states). At the bottom the resonating body is of extremely slight proportions. From this illustration it can be readily seen that the earliest form of the harp was a bow; later, a resonator, which probably at first was merely a gourd, was added. This instrument is being played in a kneeling position, with its top resting on the shoulder of the performer. As the instrument developed more strings were added. Wilkinson(7), p. 239, fig. 193, 1 shows such a harp, in which the bow-form is clearly visible, and which has seven strings. A still further development is shown in the two harps represented by Wilkinson fig. 192, 2 and 3. Both of these harps have seven strings; but unlike the harp previously mentioned, they have pegs, which are very clearly represented. One of the harps is played by a male, the other by a female, both in a kneeling position.

Later, a support was attached to the resonator of the harp, at the bottom. Wilkinson(7), p. 234, fig. 185, 1 and fig. 186, 1 illustrates two such harps. The former has eight strings, the latter, seven.

More elaborate are the harps in which the resonator was greatly enlarged, and in playing which the performer stood upright. The rest of the instrument was also proportionally enlarged and adorned. The most beautiful harps are represented by Wellhausen(32), frontispiece, facing p. xii. The performers, who are priests, are standing upright. One of the harps has 11 strings, the other 13. The resonators at the bottom are beautifully adorned, and each has the figure of a god on it.

Besides these harps, which are not portable, there are a good many varieties of portable harps. My reason for not having included them in the description of the larger harps is that it cannot be determined at which point in the development they make their appearance. They certainly do not antedate the bow-shaped harp of two strings; and when they are triangular in shape, I think that they are rather late.

A few of them may be mentioned. Wilkinson(7), p. 275,

fig. 208, 2 illustrates a harp about two feet high, which, though easily capable of being carried, is shown supported upon a sort of taboret. It is ornamented at the top, and no part of the frame in particular stands out as the resonator. Similar in shape but with 20 strings, is the harp shown by Wellhausen(32) p. 230, fig. *ff*. Here the strings are not, at the bottom, attached to the frame of the instrument, but are attached to a round bar, without any pegs. It is possible that this bar could be turned so as to regulate the tension of the strings.

There is also a curious kind of harp illustrated by Wellhausen fig. *ii*. This same harp is by him represented on p. 229, *dd* as being carried on the shoulder. Wellhausen quite aptly calls it half lute, half harp. It differs from the lute, however, in that its strings are arranged one above the other, while in the lute they are one at the side of each other. Besides, one can still detect the bow shape of the original harp; whereas in the lute one cannot. Wellhausen also illustrates (p. 230, fig. *kk*) a harp from Zanzibar, which closely resembles the lute-shaped harp of the Egyptians. From the lute-shaped harp it was not a very great step to the lute. I shall not, however, describe the lute, for I am not including it under *nebel*.

פסנתרין

This instrument is mentioned, in connection with the many others, four times in Dan **3**,5.7.10.15, where it is written respectively פְּסַנְתֵּרִין, פְּסַנְטֵרִין and פְּסַנְתֵּרִיו (bis). **G** has ψαλτήριον, **V** *psalterium*, and **S** כִּנָּרָא.

Saadia, to Dan **3**,5 states that it is the equivalent of nebel.[36]

This instrument, as well as the ψαλτήριον to which it is equivalent, has been variously identified. Pfeiffer(1) and Weiss (31) take it to refer either to the *nebel* or to the *kinnor*; Jahn(4) on the basis of Suidas' explanation,[37] considers it the equivalent

[36] Although this commentary goes by the name of Saadia, it was not written by Saadia Gaon, but by another Saadia of the 12th century (cf. *Jewish Encyc.* Vol. 10, 580[b]).

[37] Suidas says: ψαλτήριον ὄργανον μουσικὸν ὅπερ καὶ νάβλα καλεῖται. Gesenius (*Thes.* 1116a) gives several old etymologies for *pesanterin*.

of *nebel*; Millar(36) *et al.* take it as the harp. Stainer(48) regards it as the Assyrian dulcimer.

It is impossible to decide definitely what sort of an instrument the *pesanterin* really was. It cannot be denied that it is a loanword from the Greek and is identical with the Greek ψαλτήριον. The difficulty lies in determining what the Greek instrument was. It is possible that the *pesanterin* was somewhat like the Assyrian dulcimer. In order to assume this we must argue through the medium of the Arabic *santir*, as will be seen. Arabic *santir* is generally taken to be a corruption of Greek ψαλτήριον. Now since *pesanterin* is identical with ψαλτήριον, it is possible that it is the same as the *santir*. The Assyrian dulcimer, of all ancient instruments, most closely resembles the *santir*. Therefore it may be assumed that the *pesanterin* is the same as the dulcimer.[38] I think that the argument is too subtle (cf. Wellhausen(32), p. 227, fig. 10).

The Assyrian dulcimer is a stringed instrument, with a slightly depressed bottom, over which its ten strings are drawn. The strings are represented as attached at the end to a bar which runs lengthwise; this bar should run crosswise, but the Assyrian artist, because of his incomplete knowledge of perspective, could not so represent it. Likewise the artist endeavoured to indicate the bridge of the instrument by arching the strings. It would, of course, have been impossible for the strings to stand arched of their own accord. The player strikes the strings with a short rod.

The Arabic *santir*, as well as the *qanun*, resemble the Assyrian dulcimer, not in all details, but in their general shape. The *santir* is of wood, about two feet long and one foot wide. The sounding board has several holes, which are generally cov-

[38] By some such equation.

פסנטרין = ψαλτήριον

سنطير = ψαλτήριον

Therefore פסנטרין = سنطير

Furthermore سنطير = Assyrian dulcimer

Therefore פסנטרין = Assyrian dulcimer

The equation is by no means certain.

ered with some sort of skin. The strings are drawn over a bridge and are struck with the plectrum. They are of metal, whereas the strings of all ancient instruments were of gut or twine. The *qanun* is like the *santir*, excepting that that while the latter has one side cut off obliquely, the former has two sides so cut off, and thus its front has the appearance of a triangle with its apex cut off.[39]

What the ψαλτήριον was is not at all clear.[40] Th. Reinach, who is probably one of the chief authorities on Greek music, has a brief discussion of the possibilities in DS s. *psalterion*. He quotes a phrase from Aristotle,[41] on the basis of which he thinks that *psalterion* might be considered identical with the small *trigonon*, rather than the name of a whole class of stringed instruments. There are, however, no definite conclusions in the matter.

Yet **G** often has ψαλτήριον for *nebel*; and Suidas has ψαλτήριον equal to νάβλα. Hence, I think it possible that since *nebel* is the harp, the *pesanterin* may also be an instrument of the harp type.

שבכא

The שַׂבְּכָא (not סבכא, of Baer ad Dan **3**,5) is mentioned four times, in Dan **3**,5.7.10.15. **G** translates σαμβύκη, **V** *sambuca*, **S** omits. On the Greek side we have the testimony of Strabo 471, who states that is a "barbaric" word. Athenaeus 175[d] calls it a Syrian invention. In 633[f] he states that it has four strings, while in 637[b] he assigns its invention to a certain Sambyx. In 634[a] he mentions an instrument of siege called σαμβύκη because

[39] These descriptions were communicated to me by a native Arab.

[40] On the basis of a statement of Varro, some have taken the *psalterium* to be an instrument standing upright. Nonius s. *dicteria* quotes Varro, *neque orthopsaltium adtulit psalterium quibus sonant in Graecis dicteria*. Riehm(25) and others read *orthopsallium*, and think that it means *standing upright*. The word is very uncertain, and has been read also *orthopsalticum* (ὀρθοψαλτικός high-pitched?). The text is too corrupt to base anything on.

[41] Problemata **19**,23 (perhaps Pseudo-Aristotle): ἐν τοῖς τριγωνίοις ψαλτηρίοις.

it resembled the musical instrument; when raised it had the appearance of a ship and ladder joined together.

Isidorus (*Orig.* **3**,22,7) says: *Sambuca in musico species est symphoniarum. Est enim genus ligni fractilis, unde et tibiae componuntur.* Saadia (ad Dan **3**,5) identifies it with the *ugab* (cf. below).

Engel(14) considers it a sort of guitar. Kitto(18) regards it as a species of harp or lyre. Worman(21), on the basis of the statements of Athenaeus, thinks that it was a triangular instrument, and that it might also have represented the Assyrian dulcimer. Riehm(25), referring to Athenaeus, states that among the Egyptians we find an instrument which seems to resembles a ship and ladder joined together. This may represent the *sabbeka*.

For the form of the word and its etymology, cf. Gesenius (*Thes.* 935[a]), Lewy, p. 161, Růžička KD 110; and Gressmann (35). On the etymological side the chief problem is to determine whether the Greek σαμβύκη is a loanword from the Hebrew or vice versa.

It seems most likely that the former is the case. The difficulty lies in identifying the Greek instrument. BD is not certain as to what the *sambuke* represented; while Reinach in DS, fig. 4730, illustrates an instrument which may be called σαμβύκη *si l'on veut*. This is a seven-stringed instrument, too oblong in shape to be considered a harp, which is being played in a seated position. BD calls the same instrument, which it illustrates in fig. 1609, the *psalteria*. So we see that the matter is very uncertain.

מנים

מְנִים, which occurs once in Ps **150**,3 (**G** χόρδαι, **V** *chordae*, **S** ܡܢܐ **T** incorrectly חללין) is not the name of an instrument but means strings (cf. Syriac ܡܢܐ *hair, cord*). As to using *strings* for stringed instruments, we may compare our use of *strings* referring to the violin family. Graetz(24), p. 700, states

that *minnim* is a transposition of Talm. נימין, strings, and refers to a sort of violin. This is impossible for נימין, sing. נימא < *νῆμα*.[42]

WIND INSTRUMENTS

Omitting for the present the various kinds of horns, which in their ancient forms were hardly musical instruments, at least not in our sense of the word, we will discuss those wind instruments which could be used for musical effects. Of this group the most important was the *ḥalil*.

חליל

This instrument is mentioned but six times in OT. It is found in connection with Saul's meeting the prophets, 1 S **10**,5; in Is **5**,12 of the wine bibbers; of one who comes rejoicing before JHVH in Is **30**,29; of the procession which attended the anointing of Solomon in 1 K **1**,40. In Jer **48**,36[a] the prophet compares the moaning of his heart for the people of Moab and Kir-ḥeres to the sound of the flute. In 1 K **1**,40 we find the denominative verb חלל.

G translates by *αὐλός* in all cases but one, 1 K **1**,40, where it has, for the plural, *ἐν χόροις* = במחולות. **S** omits once, Jer **48**,3b, and mistranslates the other five times: קְלָא, *tambourine* in 1 S **10**,5 and 1 S **5**,12; רְבִיעָא, *timbrel* in 1 K **1**,40; הַדוּתָא in Is **30**,29; and כְּנָרָא in Jer **48**,36[a]. **V** translates everywhere by *tibia*. **T** has correctly אֲבוּבָא in Is **5**,12; **30**,29; צְלְצְלִין 1 S **10**,5; חֲנָנָא 1 K **1**,40; כִּינּוֹרָא Jer **48**,36[a]; and זמר אֲבוּבִין Jer **48**,36[b].

The Talmud in speaking of the flute uses אבוב more frequently than חליל. M. Bikk. **2**,3 speaks of the flute of the festal procession: "The flute was played before them until they came near to Jerusalem" (contrast Jastrow s. חליל); furthermore it adds: "The flute was played before them until they approached the Temple hill."[43]

[42] Cf. AJP **43**,248.

[43] החליל מכה לפניהם עד שמגיעין קרוב לירושלם and החליל מכה לפניהם עד שמגיעין קרוב להר הבית.

The use of the flute in the sanctuary is again mentioned in M. Sukka **5**,1: "The flute was played on five and six days respectively. This is the flute of the feast of water-drawing which supercedes neither the laws of the Sabbath nor of the festivals."[44] Obadiah in commenting on this passage says as follows: "Many kinds of musical instruments were there, but because the sound of the flute was more audible than the rest, all of them are called by its name."[45]

M. Arak. **2**,3 tells of the number of flutes used, of the occasion when it was used, and also that there were flutes both of metal and reed; "No fewer than two flutes nor more than twelve should be used. On twelve days in the year was the flute played before the altar: at the regular Passover sacrifice, at the additional Passover sacrifice (cf. Nu **8**,10ff), on the first day of Passover, at Pentecost, and on the eight days of the Feast of Tabernacles. They did not play on a flute of bronze but on a flute of reed, because its sound is sweet. They ended off (the music) only with a single flute, because it ends off smoothly."[46]

In commenting on this passage Arak. 11b identifies חליל with אבוב and gives an etymology for *ḥalil*: "Why does the passage use *ḥalil* in the beginning and *abub* in the end? R. Pappa said: "*Ḥalil* and *abub* are the same. Why is it called *ḥalil*? Because its sound is sweet (*ḥalî*)."[47]

The Levites, as we thus see, used only flutes of reed in the sanctuary. This was probably due, as Krauss(45) p. 90 shows, to their conservatism. They would use none other than those made of the original reed.

The flute was used also at weddings and funerals. In M.

44 החליל חמשה וששה וזהו החליל לבית השואבה שאינה דוחה לא את השבת ולא את היום טוב.

45 הרבה מיני זמר היו שם ועל שם שחליל קולו נשמע יותר מן האחרים נקראין כולם על שמו.

46 אין פוחתין משני חלילין ולא מוסיפין על שנים עשר ובשנים עשר יום בשנה החליל מכה לפני המזבח בשחיטת פסח ראשון ובשחיטת פסח שני וביום טוב ראשון של פסח וביום טוב של עצרת ובשמונה ימי החג ולא היה מכה באבוב של נחשת אלא באבוב של קנה מפני שקולו ערב ולא היה מחליק אלא באבוב יחידי מפני שהוא מחליק יפה.

47 וכן פתח בחליל ומסיים באבוב א"ר פפא היינו חליל היינו אביב ואמאי קרי ליה חליל דחלי קליה.

B. Mez. **6**,1 we find the phrases חלילים לכלה או למת; while in M Keth **4**,4 we read: "Even the poorest in Israel should have at least two flutes and a female mourner."[48]

In Sukka 50b we find an allusion to the flute's being the instrument of the nobleman: "A flute is a musical instrument for nobles; give it to weavers and they will not have it."[49]

Finally we find the following story of the flute in Arak. 10[b]: "There was a flute in the sanctuary, which was smooth, made of reed, and dated from the times of Moses. At the king's command it was overlaid with gold, but its sound was no longer sweet. They removed the overlay and its sound became sweet as it was before."[50] The same story is repeated in somewhat briefer form in J. Sukka 55[c].

The case in which the flute was kept is called תיק חלילין in M. Kel. **16**,8.

There has been hardly any doubt, even to the earlier investigators, that the *ḫalil* was the flute. Some have taken it to represent the double flute as well as the single flute, *e.g.* Pfeiffer(1), Jahn(4), *et al.* Stainer(48) thinks that it represented the oboe.

Ḫalil cannot come from the stem חול, حول *to dance*, but must come from חלל, خل, cf. Ass. *xalxallatu* and *xalâlu*.[51] It means, literally, *bored through*, *perforata*. I take it that this epithet refers, not to the holes which were bored in the pipe in order to increase the range of the instrument, but rather from its referring to the hollow character of the reed of which it was made.

There is hardly any doubt that it signifies flute. By flute, one must understand something quite different from our flute. In our flute, as it is commonly made, there is a hole near the end, across which the performer blows; this instrument is therefore aptly called the transverse flute. This is not the case with the ancient Egyptian and Assyrian flutes, as far as can be determined.

48 אפילו עני שבישראל לא יפחות משני חלילין ומקוננת.

49 אבוב לחרי זמר לנרדאי לא מקבלוה.

50 אבוב היה במקדש חלק היה דק היה של קנה היה ומימות משה היה צוה המלך וציפהו זהב ולא היה קולו ערב נטלו את צפויו והיה קולו ערב כמות שהיה.

[51]Cf. Eg. *ḫ*[3], lotus; Eth. *xellat*, reed; cf. also Meissner in ZA **17**,242 and Krauss(45).

Either they were blown straight into the end, like our modern clarinet, or they were blown across the end. The tone was not as mellow as that of our flute; it must have sounded more "reedy," like the clarinet and the Oriental flutes of today.

I think that *ḥalil* was a general word for flutes, including both single and double, as well as oblique and direct flutes. Among the Egyptians the single flute was at first the commonest; at a later period, however, it seems to have been almost entirely displaced by the double flute. Sachs(50), p. 21, fig. 12, shows eight long single flutes, from the Turin Museum. These may have been either direct of transverse flutes; one cannot tell, from the mere representation of the instruments, how they were blown. The flutes in this group have generally five holes, thus being capable of producing six tones. Wilkinson(7) p. 316, fig. 229, nos. 3 and 5 shows two long flutes that are blown across the end. One is about two feet long, the other about three. No holes can be seen in the representation of these two flutes; but, from the position of the hands of the players, one would think that they had holes bored in them. On p. 307, fig. 225, he represents a transverse flute, which is unusually long. On p. 233, fig. 184, no. 6 he represents a direct flute, about two feet long. Here again the number of holes in the instrument is not clear; but judging from the position of the player's hands, there may have been eight. There are, of course, a good many more illustrations of flutes, but, aside from their length, they do not differ from the few mentioned.

Among the double flutes, too, one may differentiate two kinds. One form does not have the two tubes united together, excepting possibly at the mouthpiece; the other form has the two pipes bound together its whole length. An Egyptian flute of the second form is illustrated by Sachs(50), p. 17, fig. 12, from the Berlin Museum. Sachs rightly calls it the double clarinet. The two pipes have each four holes, and are of the same length. On p. 22, fig. 15, he represents a double flute of the first form, which does not have the pipes bound together. One cannot tell how many holes this particular flute had. Many other illustrations of double flutes are found in Wilkinson(7), none of which, however, differ from those already described.

The Assyrians, too, used the flute quite commonly. I can find no representations of their single flute; but they have a word for it (*malîlu*). In the well-known representation of the Assyrian band two persons, one a man, the other a woman, are seen playing the double flute. Both of the flutes are of the same size, which is much shorter than the Egyptian flutes. A larger illustration of the woman playing this flute is given by Wellhausen(32), p. 219, fig *d*.

Among the Greeks and Romans, particularly the former, the flute was very common. BD gives many representations of Greek flutes, particularly of double flutes. Besides the direct flute, the Greeks had the flute blown across the end, like some of the Egyptian transverse flutes, and also flutes blown exactly like our modern transverse flutes. Some of the flutes have holes bored into the stalk, while others have projections, to vary the sound. The Greeks carried the development of the flute farther than the Egyptians did.

עוגב

The *ugab* is mentioned four times in OT. In Gn **4**,21 it appears (**G** notwithstanding) to be a general name for wind instruments. In Ps **150**,4 it is used in the worhsip of JHVH. In Job **21**,12 its sound is called simply *qôl* and the context shows its music to have been of a joyful character. The same is shown from the context in Job **30**,31.

In Gn **4**,21; Ps **150**,4; and Job **21**,12; **30**,31 **G** has respectively *κιθάρα*, *ὄργανον* and *ψαλμός* (bis). **S** has respectively ܟܢܪܐ ,ܡܢܐ ܚܠܝܬܐ (sweet sounding strings) and ܙܡܪܐ. **V** has in all cases *organum*. **T** has, more accurately than the other versions, אבובא.

The Talmud has a statement, undoubtedly erroneous, that the *ugab* is the hydraulic organ. In J. Sukka 55c we find: "*Ugab* is the water-organ. R. Simeon b. Gamliel taught: There was no hydraulic organ in Jerusalem, because it spoils the music."[52] ארדבלס is, of course, a corruption of הדרולס=אדרולס=*ὕδραυλις*.

52 עוגב זה ארדבלס חנו רבנן שמעון בן גמליאל לא היה ארדבלי' בירושלים מפני שהוא סורח את הנעימה.

Krauss(45), p. 91 gives a simple diagram of the hydraulic organ, which was used in those days.

Ibn Ezra to Dan 3,5 says עוגב מגזרת תענבנה, *i.e.* its stem is ענב, to love. Kimchi (ed. Biesenthal-Lebrecht) 250[b] defines it simply as כלי מכלי הנגון, a musical instrument. Gesenius (*Thes.* 988[b]) gives a different version of Kimchi's definition, כלי מכלי חניגין *instrumentum e fistularum genere.*

Ugab has been taken as the Pan's pipe by Pfeiffer(1), Forkel(2), Jahn(4), Engel(14), Kitto(18), and Worman(21); and as the bagpipe by Winer(9) and Cornill(42). Pfeiffer(1) and Weiss(31) take it to be connected with an Arabic stem *'ajaba*, to blow. But that there is such a stem with this meaning is merely a matter of conjecture.[53] As to the form of the word, cf. Stade, Lehrbuch 215[b] and Barth §45.[54]

It is impossible to identify the *ugab* with any certainty. If it is from the stem ענב, to love, hence an instrument which arouses to ecstacy, it may be the flute. Krauss(45), p. 88, for instance, states that the flute was not originally used in the Temple service because of the ease with which it aroused to ecstacy.

We must remember, however, that **T** has always translated *ugab* by אבובא and that in all of the cases where *ugab* is found, a wind instrument suits the context. Hence it may be a term for wind instruments.

משרוקיתא

The *mashroqita* is mentioned in Dn 3,5.7.10.11. **G** translates by *σύριγξ*, **V** *fistula*; **S** משרוקיתא.[55]

This is considered a Pan's pipe by Pfeiffer(1) and Forkel(2); a flute by Worman(21); a double flute by Ambros(13); and the

[53] Cf. Prince(34), col. 3229, note 6; also Millar(36), col. 461[b].

[54] The form *qutâl* is frequent in Assyrian, e.g. *qurâdu*, warrior; *xurâçu*, gold. It may be the prototype of the diminutive فعيل (cf. JBL 34,74; ZDMG 64, 704).

[55] מַשְׁרוֹקִיתָא lit. *sound of a pipe*; מַשְׁרוֹקָא means *pipe*; cf. שָׁרִיק *hollow*, which may be a Shafel of ריק.

equivalent of the *ugab* by Jahn(4). For its etymology, cf. Derenbourg, p. 238 and Barth §168c.

Although it is difficult to tell whether *syrinx* comes from a Semitic stem, or vice versa, it is most likely that *syrinx* is a Semitic loan word. Even if *mashroqita* and *syrinx* are not connected there is no doubt as to what instrument we are here dealing with. The rendering of the Versions shows that the syrinx was meant; while on the Semitic side, too, the etymology from *šaraq* may very well point to the Pan's pipe, because of its reedy tone.

The syrinx is mentioned in Homer Il. **10**,13; **18**,526 as the shepherd's flute. It is supposed originally to have had seven reeds or pipes. This was not always the case later, for we find the number as high as thirteen. In some cases the pipes or reeds are bound by a cord, while in others they are inserted in a sort of box, which keeps them together. Generally the reed vary in length, but occasionally we find syrinxes the length of whose reeds is uniform. The method of blowing also varies. It usually was blown into at the top, like our modern mouth-organ, but occasionally it was blown across the top, like the flute.[56]

סומפניה

This instrument is mentioned in Dn **3**,5.10.15. In **3**,5 it is written סוּמְפֹנְיָה; in **3**,10 סִיפוֹנְיָא (**Q** סוּמְפוֹנְיָא); in **3**,15 סוּמְפוֹנְיָה. **G** has *συμφωνία*, **V** *symphonia*, **S** צְפוֹנְיָא. In **3**,7 the Versions insert the word, which has fallen out of MT.

Polybius **28**,10,5 and **31**,4,8 mentions the *συμφωνία* in connection with Antiochus Epiphanes. It seems here not to be a concord of sounds, but to refer to a musical instrument.

According to M. Kel. **11**,6 the symphonia seems to refer to the double flute: "As to the *symphonia* and the flute, if they are entirely of metal they are unclean; but if they are only overlaid with metal they are clean. If a *symphonia* has a receptacle for

[56] For an account of the syrinx, cf. DS *s.v.*; cf. also BD, figs. 167, 168; note also the account of the Pan's pipe in Ovid, *Met.* **1**,690ff and Vergil, *Ecl.* **2**,32.

receiving the wings (the two pipes of the double flute) it is unclean in either case."[57]

Krauss(45), p. 90 and note 95 gives a description which is taken from several Tosephtas. According to him the *symphonia* had, at the mouthpiece, a depression where the pipes were joined to one another, while farther down the pipes diverged. The mouthpiece was often made of a different piece from the pipes, and was set over them.

The case in which the symphonia was kept when not in use is called the M Kel **16**,8 תיק סמפוניה.

Isidorus (*Orig.* **3**,14) says: *Symphonia vulgo lignum appellatur cavum ex utraque parte pelle extenta, quam virgulis hinc et inde musici feriunt fitque in ea ex concordia gravis et acuti suavissimus cantus.*

Saadia, on Dan **3**,5, says: הוא שמשמיעין בו את הרועין כמין נוד תפוח ודוגמתו לבית הסמפונות, It is that (instrument) which the shepherds sound, a sort of inflated skin and resembles a lung where the bronchial tubes enter it.

Du Cange s. *symphonia* gives several citations showing that the word, at least in later times, referred to a musical instrument. Among others, one sees that it has been taken as referring to *tibia* and *tuba*.

It is generally taken to be equivalent to the Greek *συμφωνία*. Forkel(2) who quotes SH (cf. Ugolini, *Thes.* 32, p. 39-42) takes it to be the bagpipe. Likewise do Gesenius (*Thes.* 941[b]), Engel(14)[58] Barry (JBL **23**,180-190; **27**,99-127; *The Monist* **19**,459-461).[59] Saalschütz(10) considers it to have been the double flute. Jahn(4) considers it a reed pipe or flute.

There can be no doubt, especially after the numerous citations given by Barry, that the ancients knew the bagpipe; that its name was *συμφωνία* is, however, not so clear. Yet

[57] סומפוניה וחליל של מחכת טמאין ומצופין טהורים סימפוניה אם יש בה בית קבול כנפים בין כך וכך טמאה.

[58] Engel describes a representation of an instrument found in Tarsus (p. 298, fig. 93). He takes it to be a bagpipe. The image is badly mutilated, but one can make out the faint outlines of an instrument which looks like a Pan's pipe, provided with some sort of bellows.

[59] Contrast Moore, JBL **24**,166-175.

because of Saadia's explanation (cf. above), and of the tradition found in SH, I believe it quite likely that the *symphonia* referred to the bagpipe.

שׁופר

We shall now discuss the various horns, which are not, as has been stated before, very important from the musical point of view. Of these the one most frequently mentioned in OT is the שופר (cf. Ar. شبور and سوافر, *ram's horns*, GB[17], 815[b]).

The *shofar* is mentioned 72 times in OT. That it was made of the horn of a ram is seen from its being referred to as שופר היובל four times, Jos **6**,4.6.8.13. This expression is rendered as follows in the Versions: **G** omits in Jos **6**,4.6.13 and translates the word by *ἱερός* in Jos **6**,8;[60] **V** has *jubileo*; **T** has correctly rendered the expression as שׁוֹפָרָא דְּקַרְנָא דְּכַרְיָא.

In OT we find no case of the *shofar* being used as a musical instrument. On account of its ability to produce a loud sound, it is used chiefly as a signal-horn, either to summon the people together, or else to warn them of some danger. In 2 S **6**,15 we find it being used in the procession accompanying the Ark. The loudness of its sound can be seen from the expression כשופר הרם קולך in Is **58**,1. In 1 Ch **15**,28 and 2 Ch **15**,14 it is mentioned together with the *ḥaçoçera*; and in a good many other instances (cf. Büchler ZAW **19**,102f).

Although we find the expression שופר תרועה in Lev **25**,9 and תרועה (stem רוע; cf. GB,[17] 751b) often used in connection with blowing the *shofar*, we do not find the verb הריע used in OT of blowing it; תקע lit. *to strike* is used (cf. Ar. ضرب بالبوق, German *Trompetenstoss*, and our *hit out a tone*). We find תקע בשופר *e.g.* Jos **6**,4; Jud **3**,27; or simply תקע שופר e.g. Jud **7**,12; Is **18**,23. In Lev **25**,9 העביר is used in connection with blowing the *shofar*.

The sound of the *shofar* is referred to simply as קול. In

[60] The text of **G** in these passages varies considerably from **MT**; cf. *The Old Testament in Greek*, ed. Brook and McLean, Cambridge (1907), notes on p. 691-2.

Ex **19**,6f and Jos **6**,5 קול השופר refers to the subterranean rumblings of an earthquake (cf. Haupt in WZKM **23**,355 ff).

G translates by *σάλπιγξ* 42 times; by *κερατίνη* 25 times; and omits once, Jos **6**,13. In four passages it is incorrectly translated. In Jos **6**,8 **G** has, for ותקעו בשפרות *καὶ σημαινέτωσαν εὐτόνως*; in Jos **6**,9 it has, for תקעו השופרות (**Q** תקעי), *οὐραγόντες*; in Hos **8**,1 for אל חכך שופר it has *εἰς κόλπον αὐτῶν*;[61] and in 1 Ch **15**,28 it merely transliterates it *σωφέρ*.

S translates by קַרְנָא 37 times (pl. קַרְנָתָא and three times, Jos **6**,6,8; Jud **7**,22 קַרְנָן); by שִׁיפוּרָא 31 times; and omits it twice, Jud **7**,19; Job **39**,25. In 1 Ch **15**,28, for בקול שופר ובחצוצרות it has בְּקָלָא קַרְנָתָא פְּשִׁיטָתָא וּבְפִיפָתָא; and in 2 Ch **15**,14, where the order is בחצוצרות ובשופרות it has קַרְנָתָא בְּפִיפָתָא וּפְשִׁישָׁתָא. It thus appears, at least in these two cases, that **S** considered the *shofar* a straight horn.

V translates by *buccina* 38 times, *tuba* 29 times, and omits four times, in Lev **25**,9[b]; Jos **6**,5.6.20[b]. In one case (Ps **98**,6), where *shofar* is to be distinguished from *ḥaçoçera*, **V** translates *tuba cornea*. **T** has קַרְנָא three times, Jer **4**,19.21; **6**,1 and in all other cases שׁוֹפָרָא (though occasionally it is pointed שׁוּפָרָא, *e.g.* Lev **25**,9[b] and Job **39**,25).

Following is the table of the renderings of the Versions:

שׁופר (72)

G		S		V		T	
σάλπιγξ	(42)	קַרְנָא	(37)	*buccina*	(38)	שׁוֹפָרָא	(63)
κερατίνη	(25)	שִׁיפוּרָא	(31)	*tuba*	(29)	קַרְנָא	(3)
mistranslates	(4)	קַרְנָא פְּשִׁישָׁתָא	(2)	*tuba cornea*	(1)		
omits	(1)	omits	(2)	omits	(4)	omits	(1)

[61] Cf. Sellin, *Zwölf-Propheten Buch* (1922), p. 64f; contrast Wellhausen, *Skizzen und Vorarbeiten* II, p. 117.

In discussing the Rabbinic material I shall not separate *qeren*, *shofar* and *ḥaçoçera* because of their intimate connection, but shall treat them all together.

M. Kel. **11**,7 gives a good bit of information about the *qeren*: "A bent horn is unclean, while a straight one is clean. If it has a mouthpiece of metal, it is unclean. As to its bell, R. Tarphon considers it unclean, while the sages consider it clean. If they are joined together, it is all unclean."[62] Thus we learn that the *qeren* was made either straight or bent, that it was made of different parts put together, and that its mouthpiece and shaft could each be made of different material.

From this description the Mishna appears to be referring to horns made of metal, not to natural horns, but Obadiah in commenting thereon says: "Horns of natural horn are made in parts joined to one another; but the shape of some is curved, while that of others is straight. Joining together the parts of a curved horn is more difficult and requires more skill than joining the parts of a straight one."[63]

M. R.H. **3**,2 discusses the relation between *shofar* and *qeren*: "All horns are fit for use, except neat horns, because they are called *qeren*. R. Jose said: Are not all the horns called *qeren* as in the passage (Jos **6**,5) *when a blast is blown in the ram's horn*."[64] The comment on this passage, in R.H. 26a, is not very clear, and contains several opinions; one, that neat horns are called only *qeren*, not *shofar*; another, that the horns of an ox are called *shofar*; and another, where *shofar* is taken to be connected with שפיר, beautiful.

There are also instances of the comparison and confusion of *shofar* and *ḥaçoçera*. Sota 43a states: וחצוצרות התרועה אלו השופרות, alarm-trumpets are *shofars*. In Shabb. 36a we find: "Just as one may carry about a *shofar*, so may one carry about the *ḥaçoçera*. Whence do we know that *shofar* and *ḥaçoçera* are

62 קרן עגולה טמאה ופשוטה טהורה אם היתה מצופית שלה של מתכת טמאה הקב שלה רבי טרפון מטמא וחכמים מטהרין ובשעת חבורן הכל טמא.

63 חצוצרות מקרני הבהמות עשויות פרקים פרקים מחוברים אלא שאחת מהם צורת עגולה ואחרת פשוטה וחבור הפרקים של עגולה קשים וצריכין אומן יותר מחבור הפרקים של פשוטה.

64 כל השופרות כשרין חוץ משל פרה שהוא קרן אמר רבי יוסי והלא כל השופרות נקראו קרן שנאמר במשך בקרן היובל.

the same? From R. Ḥisda, for he said: The following three groups of words are changed in meaning after the destruction of the temple. What was formerly called *ḥaçoçera* was called *shofar*, and what was formerly called *shofar* became *ḥaçoçera*."[65] Similar statements are found in R.H. 36a and Sukka 34a.

As to יובל (ram) R.H. 26[a] says: יבלא is the same as דכרא (ram). R. Akiba said: When I went to Arabia they used to call a ram יבלא."[66]

Most of the information on the use of horns is found in M. R.H. In **3**,5 we find: "The *shofar* for the New Year is made of the horn of the ibex, is straight, and its mouth is overlaid with gold. Two *ḥaçoçerot* are at either side. The sound of the *shofar* is sustained, while that of the *ḥaçoçerot* is shortened, because the order of the day requires the *shofar*."[67] For fast days **3**,4 says: "On fast days horns of rams are used; they are bent, and their mouths are overlaid with silver. Two *ḥaçoçerot* are in the middle. The sound of the *shofar* is shortened, while that of the *ḥaçoçerot* is prolonged, for the order of the day requires the *ḥaçoçera*."[68] M. R.H. **3**,5 states: "The jubilee is like the New Year in respect to the blasts on the horn and in respect to the blessings. R. Judah says: On New Years ram's horns are blown, on jubilees, ibex's horns."[69]

Most of the details about the *shofar* are found in M. R.H. **3**,6 and the comment thereon in R.H. 27[b]. Here we learn that a broken *shofar*, if properly repaired, may be used; that one *shofar* may be put inside the other and, provided the sound of the inner one is heard, the combination is satisfactory; that the

65 כשם שמטלטלין את השופר כך מטלטלין את חצוצרות... ומאי שופר נמי חצוצרות כדרב חסדא דא"ר חסדא הני תלת מילי אישתני שמייהו מכי חרב בית המקדש חצוצרתא שופרא שופרא חצוצרתא למאי נ"מ לשופר של ראש השנה.

66 יבלא לשנא דדכרא הוא דתניא אמר רבי עקיבא כשהלכתי לערביא היו קורין לדכרא יבלא.

67 שופר של ראש השנה של יעל פשוט ופיו מצופה זהב ושתי חצוצרות מן הצדדין שופר מאריך וחצוצרות מקצרות שמצות היום בשופר.

68 בתעניות של זכרים כפופין ופיהם כסף ושתי חצוצרות באמצע שופר מקצר וחצוצרות מאריכות שמצות היום בחצוצרות.

69 שוה היובל לראש השנה לתקיעה ולברכות רבי יהודה אומר בראש השנה תוקעין בשל זכרים וביובלות בשל יעלים.

natural horn may be scraped; and changed in shape; and the socket in which the horn naturally sits may be bored through and left on the horn. Minute details for regulating the blasts and their order are also given.

Further uses of the *shofar* mentioned in the Talmud are: for excommunication, Shabb 36[a]; to announce a death, MQ 27[b]; to announce the new moon, Nidda 38[a]; to announce the beginning of the Sabbath, AZ 70[a]. The phrase התוקע לשיר in RH 37[a] may show that the shofar could also produce a melody (contrast Rashi *ad loc.*, who reads שד, demon, and thinks that the *shofar* is used to drive away evil spirits). Finally M Sukka **5**,4 describes at length the procession which took place on the Feast of Tabernacles.

Jerome, on Hos **5**,8 says: *Buccina pastoralis est et cornu recurve efficitur, unde et proprie hebraice Sophar, Graece κερατίνη appellatur.*

With few exceptions, all have taken the *shofar* to be the ram's horn. Schneider(6) and Engel(14) regard it as having been made of metal, at least in some cases; Riehm(25) thinks that it may have been made of metal in later times; while Kitto(18) believes that it may have referred to neat horns as well as to ram's horns.

That the *shofar* denoted a ram's horn is perfectly evident both from the etymology of the word, as well as from its survival down to the present day. The word is, of course, connected with Ass. *šapparu*, ram.[70] That it was a ram's horn is borne out also by the expression *shofar ha-yyôbel*, where *yobel* means ram.

The form of the *shofar* is too well known to require description.[71] It is not, clear, however, whether the *shofar* of Biblical times was straightened and flattened by being heated, as is the

[70] The form arises thus: *šappar* > *šôpār šôpar*; כוכב < *kakkabu*, and Delitzsch, *Prolegomena*, p. 125; for the earlier etymologies, cf. Gesenius (*Thes.*) 1469b.

[71] For numerous illustrations of the *shofar*, cf. Cyrus Adler, "The Shofar," in the *Report of the U. S. National Museum for 1892*, pp. 437-450.

case with the *shofar* of today, or whether it retained the natural shape of the ram's horn. Most likely the latter was the case.

חצוצרה

The חֲצוֹצְרָה (pl חֲצוֹצְרוֹת) is mentioned 29 times in OT.[72] The singular occurs but once, Hos **5**,8. The directions given to Moses for making the two *ḥaçoçeroth* are found in Num **10**,2f. There we learn that they were to be made of silver, which was to be hammered or beaten, מקשה (**G** ἔλατος, **V** *ductilis*).

The *ḥaçoçera* was often used for sounding an alarm, *e.g.* Num **31**,6; note also the expression חצוצרות התרועה. Most frequently, however, it was used in connection with the service, or in religious celebrations, *e.g.* Ps **98**,6; 2 Ch **5**,12; **13**,14.

G translates it by *σάλπιγξ* in 27 cases, never by *κερατίνη*, thus showing that it was not considered as made of natural horn. **G** omits the word in 2 Ch. **5**,13. In Hos **5**,8 for תקעו שופר בגבעה חצוצרה ברמה **G** has *Σαλπίσατε σάλπιγγι ἐπὶ τσὺς βουνούς, ἠχήσατε ἐπὶ τῶν ὑψηλῶν.*

S translates by קַרְנָא 15 times and omits 5 times, 2 Ch **5**, 12.13; **13**,8.12.14. In 2 Ch **15**,14.28 it wrongly adds כְּפִיפְתָּה to the translation of the plural, taking it as a bent horn. In 2 Ch **20**, 28; **23**,13[b]; **29**,26.28 the plural is rendered by a conflate reading קַרְנָתָה כְּפִיפְתָּא וּפְשִׁיטְתָּא. In 1 Ch **16**,42 where the whole passage is paraphrased, expanded, and given a negative interpretation it has וְלָא בְּקַרְנָתָא כְּפִיפְתָּא וְאַפְלָא בְּפְשִׁיטְתָּה. In Ex **3**,10 **S** misunderstands it as a ram's horn, קַרְנָא דְּדִכְרָא while in 2 Ch **29**,27 it mistranslates by אִיךְ דְּמָן פּוּקָא.

V has simply tuba 27 times. In Ps **98**,6 where it is to be distinguished from *shofar*, it is rendered *tuba ductilis*. In 2 Ch **5**,13 **V** mistranslates the whole passage, but includes the word *tuba*. **T** translates 11 times by חֲצוֹצְרְתָּא (pl. חֲצוֹצְרָן and חֲצוֹצְרָתָא).

[72] The denominative verb חצצר is found in six passages: 1 Ch **15**,24; 2 Ch **5**,12.13; **7**,6; **13**,14; **29**,28.

חצוצרה (29)

G	S	V	T
σάλπιγξ (27)	קרנא (15)	*tuba* (27)	חֲצוֹצְרָתָא (11)
omits (1)	omits (5)	omits (1)	
mistranslates (1)	mistranslates (4)	*tuba ductilis* (1)	
	conflate readings (5)		

Josephus (Ant. **3**,12,6) says of the *ḥaçoçera*: "He (Moses) invented also the form of the trumpet, made of silver. It is as follows: Its length was a little less than a cubit; it was a narrow tube slightly thicker than a flute, having sufficient breadth at the mouth for the admission of the breath, ending in a bell like (common) trumpets. It was called *asosra* in Hebrew."[73]

Jerome, on Hos **5**,8, describes the tuba (*ḥaçoçera*) as follows: *Tuba autem de aere efficitur vel argento, qua in bellis et solemnitatibus concrepabant.*

This is considered by almost all as a metal horn, *e.g.* Pfeiffer (1), Jahn(4), Schneider(6), Weiss(31), Wellhausen(32), Gressmann(35) *et al.* Its etymology is not certain, cf. Gesenius (*Thes.* 513[a]); Stade §124; Brockelmann VGr **1**,247; König **1**, 284; GK[28],55e; GB[17], 253[a]; Gressmann(35); and Růžička KD 15f.

Although the etymology of the word is not certain,[74] there can be no doubt about the character of the *ḥaçoçera*. The Bible expressly states (Nu **10**,2) that it was made of beaten silver.

[73] Εὗρε δὲ καὶ βυκάνης τρόπον εξ ὀρίγου πσιησάμενος, ἔστι δὲ τσιαύτη: μῆκος μὲν ἔχει πηχυαῖον ὀλίγῳ λεῖπον, στενὴ δ' ἔστι. σῦριγξ αὐλοῦ βραχεῖ παχυτέρα, παρέχουσα δὲ εὖρος ἀρκοῦν ἐπὶ τῷ στόματι πρὸς ὑποδοχὴν πνεύματος εἰς κώδωνα. ταὶς σάλπιγξι παραπλησίως τελοὺντα. ασωσρα καλεῖται κατὰ τὴν Ἑβραίων γλῶσσαν.

[74] Haupt suggests that it may come from a stem חצר which may be a transposed doublet of צרח صرخ *to cry*.

Besides, we have two actual representations, one on several coins given, among others, by Madden, p. 206f; and that on the Arch of Titus. Furthermore, that the *ḥaçoçera* was always of metal is shown by **G**, which never translates it κερατίνη, but always σάλπιγξ.

The *ḥaçoçerot* represented on the Arch of Titus are comparatively long with their ends but slightly bell-shaped. The mouthpiece is hidden, so that we cannot see whether they had slight bulgings, as the trumpets shown on the coins have. On the coins the trumpets appear to be shorter and thicker; the bulgings near the mouthpiece are clearly visible, and the ends are clearly bell-shaped.

Both the Egyptians and Assyrians possessed horns of this type. Sachs(50), p. 21, fig. 12 shows a trumpet of the New Kingdom. The instrument seems to be about 30 inches long, and its end is distinctly bell-shaped. Wilkinson(7), p. 261, fig. 199, no. 1, shows a trumpet of slightly different shape. It is much shorter, and widens suddenly into a bell at the end. Excepting for the cone-shaped bell, this horn is wider in the middle than elsewhere. Wellhausen(32), p. 221, fig. *i*, shows an Egyptian horn which is quite different from either of these two. It resembles a bottle, cut in half longitudinally. Worman(21), s. *ḥaçoçera*, illustrates two Assyrian trumpets. They closely resemble those on the Arch of Titus.

קרן

The *qeren*, which appears in Dan 3,5.7.10.15 as קַרְנָא, needs very little discussion. It is a general word for any kind of horn. That it included ram's horns is evident from Jos 6,5; that it included neat horns is evident from p. 46 above; and that it referred also to horns of metal is shown on p. 46 and 49 above.

INSTRUMENTS OF PERCUSSION

The most common instrument of percussion is the *tof* (Ar. دف, Spanish *aduffe*), which occurs 15 times in OT.[75] It is men-

[75] מְלֵאכֶת תָּפִיךְ, Ez 28,13 does not refer to a musical instrument, (**V** *opus decoris tui*); nor is a musical instrument referred to in Jer 31,4 עוֹד תֵּעָרִי תָּפִיךְ (**S** תִּצְטַבְּחִין בְּחַצְבִיתָא).

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tioned in connection with Saul's meeting the prophets, 1 S **10**. 15, and with Miriam and her maidens when they do their dance of joy, Ex **15**,20. In these cases and in several others, it is mentioned together with other instruments; *e.g.* Is **5**,12; 2 S **6**,5 and elsewhere. The joyful character of its sound is referred to in Is **24**,8 as משוש תפים. When David and his procession make merry before the Ark of JHVH, the *tof* is mentioned (2 S **6**,5; 1 Ch **13**,8). It is also mentioned as being used in the service of JHVH, Ps **81**,3; **149**,3; **150**,4.[76]

G translates *tof* by *τύμπανον* in all cases but one, Job **21**,32, where it incorrectly has *ψαλτήριον*. **V** renders by *tympanum*. **S** has רְבִיעָא in Is **5**,12; Ps **149**, 3; 1 Ch **13**,8, and in all other cases, פְּלָוְא. **T** incorrectly translates by קַתְרוֹס in Is **5**,12, while otherwise it has תּוּפָּא (pl. תּוּפָּיָא, תּוּפִּין).

Isidorus (*Orig.* **3**,21,10) says the following: *Tympanum est pellis vel corium ligno ex una parte extentum. Est enim pars media symphoniae in similitudinem cribri. Tympanum artem dictum quod medium est.*

It is taken for a drum or tambourine by nearly all investigators, *e.g.* Pfeiffer(1), Forkel(2), Jahn(4), Engel(14), Worman(21) *et al.* For its etymology, cf. Jensen KB **6**,1,433; Lewy, p. 166; and Gressmann(35).[77]

Tof is most likely a general name for drums, and included tambourines as well. Instruments like the drum and tambourine were much more common in the ancient Orient, where rhythm was the chief characteristic of the music, than they are today among us. In fact, Oriental music is still characterized by the dominant influence of rhythm.

The Egyptians and Assyrians, particularly the former, had many varieties of drums and tambourines, both round and oblong. Wellhausen(32), p. 232, fig. *pp.* shows a representation

[76] The denominative verb תפף, *to beat* is found in Ps **68**,26 and Neh **2**,5, in the former case referring to beating the drum, in the latter case, the breast.

[77] It may be a Sumerian loanword; cf. דַּפָּא, *board, tablet* < Sumerian *dup, tup* (cf. Delitzsch, *Sumerische Glossar*, 145); cf. also Eg. *dpt*, oar, ship.

of some women dancing with tambourines in their hands. From the proportions, the tambourines seem to be about the same size as ours. Wilkinson(7), p. 240, fig. 198, no. 4, shows a circular tambourine of slightly larger dimensions. It consists of a circular hoop over which a skin is tightly drawn. It is, from the representations, difficult to tell whether the frame was covered on both sides with skin, or only on one. He thinks (p. 315) that on account of the Egyptian manner of holding the tambourine vertically after it had been struck it may have had metal rings inserted in the rim, as our modern tambourines have.

There is also the square, or more correctly, the oblong tambourine, which is best represented by Sachs(50), p. 19, fig. 9. Here two of them are shown, one slightly more rectangular in shape than the other. These are held and struck in the same manner as the round tambourines. They do not seem to have been common among the Egyptians, probably on acocunt of their inconvenient size and shape.

Besides these tambourines, the Egyptians had also several varieties of drums. One variety, which look as though it were originally made of a gourd, is shown by Sachs(50) *l.c.* The tapering end is held in the left hand, while the face is struck with the right. Another form is shown by Engel(14) p. 218, figs. 60 and 61. It is about two feet long, is covered with skin at both ends, and, like the modern drum, is braced with cords. It is suspended by a strap from the performer's shoulders and is struck with both hands. There is also a large drum, almost like our bass drum, of which an actual specimen has been found. It is shown by Wilkinson(7), p. 270, fig. 204. Excepting for its bulging out in the middle, it looks like our drum. Both at the top and bottom a string of gut, which is wound around cords for bracing the drum, encircles it. By moving the two strips of gut towards each other, the cords are tightened, and thus the skin is stretched. This drum was beaten with two slightly bent drumsticks.

The Assyrian representations of tambourines and drums are not as numerous as the Egyptian. Yet we have tambourines and several kinds of drums. Wellhausen(32), p. 232, fig. *qq*, shows an Assyrian quartet, in which the figure farthest on

the left is playing the tambourine. It is being held upright, like the Egyptian tambourines mentioned.

No representations of the gourd-shaped drum, such as the Egyptians had, have been found among the Assyrians. They have several varieties, which seem to be covered with skin only on one end. Wellhausen(32), p. 233, fig. *v*, shows a woman carrying a drum, which appears to be about nine inches high. It is attached either to a belt she is wearing, or to a strap hanging from her shoulder. On the side that is visible, the drum has four circular projections, which may have been holes for increasing the resonance of the instrument. It is struck with both hands. Engel(14), p. 64, fig. 19, shows a figure of a woman, carrying a drum about eighteen inches high. This drum, too, has the four projections on the visible side. It is not cylindrical, but rather cone-shaped; how it is supported is not clear. It is struck with both hands.

The Arabic *duff* is a small tambourine about five inches in diameter. It has three or four sets of metal rings in its rim, and is re-enforced at the back by several gut strings. These strings reverberate when the skin is struck, and serve to increase the volume of sound.

מצלתים, צלצלים

The צֶלְצָלִים are mentioned three times in OT. In 2 S **6**,5 they are found in the procession of David and his people before the Ark (**G** incorrectly *αὐλοί*, **V** *cymbala*, **S** ציצלא, **T** צֶלְצְלִין). In Ps **150**,5[a] is found the phrase צלצלי שָׁמַע[78] (**G** *κύμβαλα εὔηχα*, **V** *cymbala bene sonanta*, **S** צצלי שמעא, **T** צִלְצְלוֹן דְּשָׁמְעִין). In Ps **150**,5[a] occurs צלצלי תרועה (**G** *κύμβαλα ἀλαλαγμοῦ*, **V** *cymbala jubilationis*, **S** incorrectly בקלא ובקעתא,[79] **T** צִלְצְלוֹן דְּמִשְׁמְעִין בְּיִבְבָא).

The מְצִלְתַּיִם are mentioned 13 times, in Chronicles, Ezra, and Nehemia. In 1 Ch **15**,19 they are called מצלתים נחשת (**G**

[78] Graetz(24), p. 701, states that for צלצלי תרועה we should read חצוצרות תרועה, since *terûă* is used only of wind instruments

[79] קָעָתָא may = תְּרוּעָה.

κύμβαλα χαλκά, **S** omits, **V** *cymbala aenei*). In Neh **12**,27 **G** has translated מצלתים as a participle, rendering it κυμβαλιζόντες. Elsewhere **G** has κύμβαλα and **V** has *cymbala*. **S** has ציצלא in 1 Ch **13**,18; **16**,42; in Ezr **3**,10 it incorrectly has שיפורא; in 2 Ch **29**,25 it has תשבחתא; and it omits in 1 Ch **15**,19; **25**,6; 2 Ch **5**, 12.13.

These are mentioned in Rabbinic literature as צלצל and מצלתים. The name of one of the performers on the cymbals is mentioned in M. Shek. **5**, 1; he is again referred to in M Tamid **7**,3. From the above we see that only one person played the cymbals in the procession (cf. 1 Ch **17**,42). It is also stated in M Arak **2**,5 that only one set of cymbals was used. In the comment on this passage (Arak 17^b) it becomes clear that צלצל means, not one cymbal, but a pair: "There were two cymbals, but since only one action was required, and one man could do it, the singular is used."[80]

A similar story is related of the cymbal as is related of the flute in Arak. 10^b: "There was in the sanctuary a cymbal of brass whose sound was pleasant. It was broken and the sages sent and brought artisans from Alexandria in Egypt, who repaired it; but its sound was no longer sweet. Thereupon they removed the repairs and its sound became sweet as it had been before."[81] The same story is told in J Sukka 55c in a somewhat briefer form.

Gesenius (*Thes* 1167^a) takes them from צלל, *to resound*, which he considers onomatopoetic; if also Barth §138,2, Nöldeke NB p. 42, and Brockelmann VGr **1**,247.

These instruments clearly refer to instruments of percussion, certainly to cymbals, as may be seen from their forms (צלצלים plural and מצלתים dual), from their derivation from צלל, from the context of the passages in which they occur, and from the Versions.

It is not possible to tell the exact difference between the

80 מצלתים תרי היו כיון דחד עבידתא עבדי וחד גברא עביד בהו קרי ליה חד.

81 צלצל היה במקדש של נחשת היה והיה קולו ערב ונפגם ושלחו חכמים והביאו אומנין מאלכסנדריא של מצרים ותקנוהו ולא היה קולו ערב נטלו את תיקונו והיה קולו ערב כמות שהיה

צלצלי שמע and the צלצלי תרועה, though it is most probable that the usual interpretation, *i.e.* that the former are smaller cymbals with a moderate sound, while the latter were larger with a loud sound, is correct.[82]

It is quite likely that Asaph, in 1 Ch **16**,5 is referred to as using castanettes. Yet, when we consider that Oriental music is far noisier than ours, we should imagine that the director would have need of an instrument that would make more noise than the castanettes, in order to be heard above the din.

The cymbals are found among the Assyrians and the Egyptians. Of those of the latter, we have some actual specimens. Wilkinson(7), p. 255, shows a pair of cymbals from the British Museum. They are five and one-half inches in diameter and have holes for handles, which, however, are missing. He thinks that the handles, like the cymbals, were made of brass, bound with leather or strings. Another pair of cymbals, described by Engel(14), p. 227, are made of bronze.

There are also several representations of Assyrian cymbals on their monuments. Wellhausen(32), p. 232, shows in the quartet referred to by many, a pair of small cymbals, played by a man. They are flat, disc-shaped, and have handles; they are being struck against each other like our cymbals. Engel(14), p. 74, fig. 22, shows cymbals of a different form. They are cone-shaped, have rather long handles, and are struck one on top of the other.

שלשים

The שָׁלִשִׁים are mentioned only in 1 S **18**,6. **G** translates *κύμβαλα*, **V** *sistrum*, **S** צִיצְלָא and **T** צְלְצְלִין.

Pfeiffer(1) takes them to refer to castanettes. Forkel(2) takes the word to apply to a three-stringed instrument. Jahn(4) thinks that it may refer to the triangle. Nowack(30), because of the rendering of **G**, thinks that the cymbals are intended; but he states that they may have been cymbals having three par-

[82] An attractive combination would be שמע = Eg. *šm'*, to sing, make music (cf. Erman-Grapow, *Aegyptisches Handwörterbuch* Berlin, 1921, p. 182); but this is very uncertain.

allel bars. Haupt, in a note on Wellhausen(32), p. 223, states that the word may represent a small triangular harp, and compares the Greek *trigonon*. Gressmann(35) thinks that the word is to be connected with an Ar. تسليس,[83] which he interprets as meaning *adorned with rings*. It would thus refer to the rings or disks with which tambourines are usually provided. Stainer (48) thinks that a lute is meant.

It is impossible to determine exactly what the *šališim* denoted. Judging from the one passage where it occurs, I hardly think that it could refer to a small harp; the sense demands some instrument capable of producing a good volume of sound. For the same reason a three-stringed lute would also be inappropriate. Of course, the word must have some connection with the numeral three. On this basis it might refer to the sistrum (cf. below), which often has three bars. However, the number three is not characteristic of the sistrum, for it often has four bars. The most attractive identification would be the triangle. This, however, is not found on the ancient monuments. Even the modern Arabs do not know it.

The expression בְּשָׁלִישׁ in Is **40**,12 is rendered δρακί by **G** and *tribus digitis* by **V**, and hence means that quantity which can be taken up in three fingers, a pinch (cf. Haupt BzA **4**,583 note). This leads me to think that *šališim* may refer to the instrument held in the three fingers, *i.e.* the castanettes. The castanettes are attached to the thumb and the third finger, or to the thumb and the first two fingers. This should, however, not be considered a definite identification. It is merely a suggestion.

מנענעים

The מְנַעֲנְעִים are mentioned only in 2 S **6**,5. **G** translates κύμβαλα, **V** correctly, *sistra*, **S** רְבִישָׁא[84] and **T** רביעין.

[83] It would thus be connected with the late Hebrew שלשלת chain, and the ש would be $ש_3$; whereas the ש of שלשים is generally taken to be $ש_1$. Besides, we are not sure that the ancient tambourines had metal discs.

[84] This denotes a timbrel, a square (or oblong) tabor hung from the neck and played on both sides.

Pfeiffer(1), noting that the *menaanim* of 2 S 6,5 are in 1 Ch 12,7 replaced by *ḥaçoçerot*, thinks that a wind instrument is intended, but gives no description of it. Jahn(4) states that the translation of G is incorrect, while *sistra* of V is right. Gesenius (*Thes.* 865[b]) compares the derivation of *menaanim* from נוע *to move about*, ith the derivation of σεῖστρον from σείω. The word is, in form a *pilpel* participle from נוע (cf. GB[17], 4,38[b]).

One is inclined to adopt the view that the word refers to the sistrum, especially in view of V's translation. The fact that the word is plural seems to refer to the sistrum's always having either three or four bars. It was a very common instrument in Egypt. There were two varieties, as Sachs(50) shows on p. 3, and they are quite different in shape. The sistrum alluded to above, which Sachs calls the Bügelsistrum, consists of a piece of metal, bent into the shape of an inverted U, which is attached to a handle. The U-shaped top has either three or four sets of holes, through which are inserted thin strips of metal, which are bent at the ends, so as not to fall out. Often these strips are bent into the shape of serpents, as shown by Wilkinson(7), p. 323, fig. 230.

These sistra were quite common in the Egyptian divine service, but apparently not so common as the Naos-sistrum shown by Sachs(50), p. 15, fig. 5. This was originally, as Sachs shows, a symbol of the deity whose image was represented thereon; later it came to be used as a sort of rattle.[85] Exactly what produced the rattling noise is not evident, but it is possible that the top of the sistrum was hollow and that pebbles or rattles were inserted.

A most interesting ancient representation of the ordinary sistrum may be found in BD *s.* Isis. Here is shown a statue of the goddess Isis, who holds in her right hand the sistrum, which is very well preserved. It is about nine or ten inches high and has four bars.

[85] For an interesting account of the symbolism of the sistrum, cf. Sachs(50), p. 3ff. For an elaborate account of the musical instruments of the Egyptians, cf. Sachs, *Die Musikinstrumente des Alten Ägyptens*, Berlin, 1921.

LIST OF ABBREVIATIONS

I have omitted the more obvious abbreviations, as well as the abbrèviations of the various Talmudic Tractates, and of the books of the Bible.

AGGW	*Abhandlungen der Gesellschaft der Wissenschaften zu Göttingen.*
AJP	*The American Journal of Philology.*
AJSL	*The American Journal of Semitic Languages and Literatures.*
Arab.	Arabic.
Aram.	Aramaic.
AV	Authorized Version.
Barth	*Die Nominalbildung in den Semitschen Sprachen,* von J. Barth. Leipzig, 1889-91.
BD	Baumeister, A. *Denkmäler des klassischen Altertums.* München und Leipzig, 1885-88.
Bochart, *Phal. et Can.*[4]	Samuelis Bocharti, *Geographia Sacra seu Phaleg et Canaan.* Editio quarta, Lungduni Batavorum, 1692.
Bondi	*Dem Hebräisch-Phönizischen Sprachzweige angehörige Lehnwörter in Hieroglyphischen und Hieratischen Texten, von J. H. Bondi.* Leipzig, 1886.
Brockelmann VGr.	*Grundriss der vergleichenden Grammatik der semitischen Sprachen, von Carl Brockelmann.* Zwei Bände. Berlin, 1908-1913.
Brugsch	Brugsch, H. *Hieroglyphisch-Demotisches Wörterbuch.* Leipzig, 1867-1882.
BzA	*Beiträge zur Assyriologie und semitische Sprachwissenschaft,* herausgegeben von Friedrich Delitzsch und Paul Haupt.
Dalman[2]	*Aramäisch-Neuhebräisches Handwörterbuch* von G. H. Dalman. Zweite Auflage. Frankfurt am Main, 1922.
Derenbourg	Hartwig Derenbourg, "Les Mots Grecs dans le livre de Daniel." *Mélanges Graux,* Paris, 1884.
DS	Daremberg et Saglio. *Dictionnaire des Antiquités Grecques et Romaines.* Paris, 1875-1919.
Eg.	Egyptian.
G	The Septuagint.
Gesenius *Thes.*	Giulielmi Gesenii *Thesaurus Philologicus Criticus Linguae Hebraeae et Chaldaeae Veteris Testamenti.* Lipsiae, 1835-1853.

GB[17]	*Wilhelm Gesenius' Hebräisches und Aramäisches Handwörterbuch über das Alte Testament* . . . . bearbeteit von Franz Buhl. 17. Auflage, unveränderter anastätischer Neudruck. Leipzig, 1921.
GK[28]	*Wilhelm Gesenius Hebräische Grammatik*, vollig umgearbeitet von E. Kautzsch. 28. Auflage. Leipzig, 1910.
Gr.	Greek
Heb.	Hebrew.
Madden	Madden, F. W. *History of Jewish Coinage.* London, 1864.
JAOS	*Journal of the American Oriental Society.*
Jastrow	*A Dictionary of the Targumim etc.*, by Marcus Jastrow. New York and London, 1903.
JBL	*Journal of Biblical Literature.*
JEA	*Journal of Egyptian Archaeology.*
JRAS	*Journal of the Royal Asiatic Society.*
KB	*Keilinschriftliche Bibliothek* . . . . herausgegeben von Eberhard Schrader. . . .Berlin, 1899-1915.
König	*Historisch-kritisches Lehrgebäude der hebräischen Sprache*, von Friedrich Eduard König. 1881-1897.
Krauss	Krauss, S. *Griechische und Lateinische Lehnwörter im Talmud, Midrasch und Targum.* Zwei Bände. Berlin, 1898-1899.
Lewy	*Die Semitischen Fremdwörter im Griechischen*, von Heinrich Lewy. Berlin, 1895.
M	Mishna.
MGWJ	*Monatsschrift für Geschichte und Wissenschaft des Judenthums.*
MT	Massoretic Text.
Muss-Arnolt	"On Semitic Words in Greek and Latin." Reprinted from the *Transactions of the American Philological Association*, Vol. 23 (1892).
Niebuhr	*Reisebeschreibungen nach Arabien und Andern Umliegenden Ländern*, von Carsten Niebuhr. Kopenhagen, 1774-1778.
Nöldeke NB	*Neue Beiträge zur semitischen Sprachwissenschaft*, von Theodor Nöldeke. Strassburg, 1910.
OC	*The Open Court.*
OLZ	*Orientalistische Literaturzeitung.*
OT	The Old Testament.
PAPS	*Proceedings of the American Philosophical Association.*
Prellwitz	*Etymologisches Wörterbuch der griechischen Sprache*, von Walter Prellwitz. Göttingen, 1892.
Q	Qerē.

REJ	*Revue des Etudes Juives.*
S	The Peshita.
Růžička KD	"Konsonantische Dissimilation in den semitischen Sprachen." *BzA*, Band 6, Heft 4.
SBOT	*The Sacred Books of the Old Testament*, edited by Paul Haupt.
Schröder	*Die Phönizische Sprache*, von Paul Schröder. Halle, 1869.
Smith	*Thesaurus Syriacus*, ed. R. Payne Smith. Oxonii, 1868-1897.
SH	*Shilte Haggibborim*, by Abraham di Porta Leone, 1612. Translated into Latin by B. Ugolini in his *Thesaurus Antiquitatum Sacrarum*, vol. 32. Venetiis, 1744-1769.
Stade	*Lehrbuch der Hebräischen Grammatik*, von Bernhard Stade. Leipzig, 1879.
Syr.	Syriac.
T	Targum.
T°	Targum Onkelos.
V	The Vulgate.
ZA	*Zeitschrift für Assyriologie.*
ZDMG	*Zeitschrift der Deutschen Morgenländischen Gesellschaft.*

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List of Illustrations to the Article Musical Instruments in OT

Fig. 1

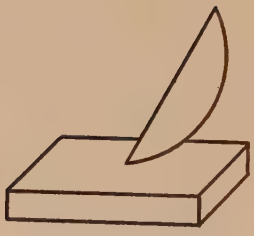

Fig. 2

Fig. 3

VITA

The writer of this dissertation was born in Shavli, Russia, October 29, 1900. He attended the public schools of Oil City, Pennsylvania, and was graduated from the Oil City High School in 1917. The following year he entered the Johns Hopkins University, from which he received the degree of Bachelor of Arts in June, 1921. From September 1921 to June, 1924 ,he pursued graduate courses in the Oriental Seminary under Professor Haupt, Professor Ember, Dr. Blake, Dr. Daugherty, and Dr. Rosenau. He held the Rayner Fellowship in Semitic Languages for the two years 1922–1924, receiving the degree of Master of Arts in June, 1923. During the course of his graduate work he assisted in giving the instruction in Hebrew, Arabic and Assyrian, and also conducted a course in Arabic at the Summer School of the Johns Hopkins University in 1923. He desires to express his sincere tahnks to all his instructors for their assistance and encouragement.

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